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Die rasche Entwicklung digitaler Plattformen und generativer Künstlicher Intelligenz verändert Wettbewerbsstrukturen und macht Grenzen traditioneller Kartellrechtsinstrumente sichtbar. Diese Arbeit untersucht, wie Marktmacht in datengetriebenen Ökosystemen zustande kommt und dauerhaft wird – insbesondere durch Netzwerkeffekte, Größenvorteile, Hebelwirkung von Plattformökosystemen und Daten-Feedbackschleifen – und bewertet, ob die heutigen Regulierungsrahmen der EU und der USA die Wettbewerbsfähigkeit in diesem dynamischen Umfeld wahren können. Mittels dogmatischer Analyse, wirtschaftlicher Betrachtungen und komparativer Fallstudien zur United States v. Google (Search) und EU-Ad-Tech-Untersuchung vergleicht die Arbeit die proaktiven Regulierungsinstrumente der EU (z.B. Digital Markets Act) mit dem fallbasierten US-Modell.

Das Ergebnis ist, dass verhaltensorientierte Auflagen und monetäre Sanktionen dort scheitern, wo die Plattformstruktur Interessenkonflikte und externe Ausschlusswirkungen verankert, und dass preiszentrierte Modelle die Verankerung dominanter Positionen begünstigen, insbesondere im Übergang zur Künstlicher Intelligenz. Die Arbeit empfiehlt daher für eine Neujustierung: strukturelle Maßnahmen dort vorsehen, wo Geschäftsmodelle strukturelle Interessenkonflikte kreieren; Abhilfen so gestalten, dass sie Infrastruktur und Daten-Feedback adressieren; echtzeitfähigen, überprüfbaren technischen Zugang verlangen bei angeordneter Datenweitergabe; und Sanktionen so anordnen, dass sie die ökonomischen Vorteile wettbewerbswidrigen Verhaltens übertreffen. Ziel ist es, algorithmische Marktkonzentration zu verhindern und die Innovations- sowie Marktvielfalt in digitalen Märkten zu sichern.

Schlüsselwörter: Wettbewerbsrecht, EU-Recht, US-Recht, vergleichende Analyse, digitale Märkte, Big Tech, digitale Plattformen, Gatekeeper, Marktdominanz, Missbrauch marktbeherrschender Stellung, Monopolisierung, Datenrückkopplung, Netzwerkeffekte, Künstliche Intelligenz, algorithmische Marktabstottung, Abhilfemaßnahmen, Digital Markets Act (DMA), Sherman Act, Interoperabilität, Vereinigte Staaten, Europäische Union

Abstract (English)

The fast convergence of digital platforms and Generative Artificial Intelligence is transforming competitive dynamics and exposing limits in traditional competition law. This thesis analyzes how market power is established and sustained in data-driven ecosystems – through network effects, scale, ecosystem leverage and data feedback loops – and examines whether EU and US enforcement tools can preserve contestability in this dynamic environment. Through doctrinal analysis, economic theory, and comparative case studies of the *United States v. Google (Search)* case and the European Commission’s Ad Tech investigation, the study contrasts the EU’s regulatory frameworks (including the Digital Markets Act) with the US’ case -by-case litigation approach.

This thesis finds that behavioral remedies and monetary penalties are often insufficient where platform architecture embeds conflicts of interest or external foreclosure, and that price-centric models risk allowing dominant companies to entrench advantages, especially during the critical AI transition. Therefore, the thesis advocates a recalibrated toolkit: presume structural remedies when business models create systemic conflicts of interest; emphasize remedies that target core infrastructure and the data feedback loop; mandate verifiable, real-time technical access where data sharing is ordered; and set sanctions that go beyond the economic gains from anticompetitive conduct. These measures seek to prevent algorithmic foreclosure, protect innovation and market diversity in digital markets.

Key words: competition law, EU law, US law, comparative analysis, digital markets, Big Tech, digital platforms, gatekeepers, market dominance, abuse of dominance, monopolization, data feedback loops, network effects, artificial intelligence, algorithmic foreclosure, remedies, Digital Markets Act (DMA), Sherman Act, interoperability, United States, European Union

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Table of Abbreviations

AAA	- Algorithmic Accountability Act
AI	- Artificial Intelligence
AICOA	- American Innovation and Choice Online Act
ATT	- App Tracking Transparency Framework
CJEU	- Court of Justice of the European Union
CWS	- Consumer Welfare Standard
DCD	- Digital Content Directive
DMA	- Digital Markets Act
DOJ	- Department of Justice
EC	- European Commission
EPC	- European Publishers Council
EU	- European Union
FCO	- Federal Cartel Office
FTC	- Federal Trade Commission
FTC Act	- Federal Trade Commission Act
GenAI	- Generative Artificial Intelligence
GDPR	- General Data Protection Regulation
GWB	- Acts against Restraints on Competition
NIST	- National Institute of Standards and Technology
RMF	- Risk Management Framework
SSNDQ	- Small but Significant Non-transitory Decrease in Quality
SSNIP	- Small but Significant Non-transitory Increase in Price
US	- United States

Introduction

For the better part of the twentieth century, the global economy was anchored in the constraints of the physical world. Contrary to today's times, market power was a visible and tangible force, defined by the control of scarce material resources. In this period, the dynamics of competition were relatively transparent. Market dominance was achieved by controlling the supply chain and it was felt through prices consumers paid at the register. Subsequently, frameworks were created around these (physical) realities, designing rules to regulate the availability of goods and to ensure that no single entity could control the channels of trade and monopolize critical resources.

Over the past few decades, however, especially since the emergence of the internet, the nature of market power has shifted significantly and increasingly. We have moved from a time of dominance through material goods to an era of dominance through digital markets. This development signifies more than just a technological upgrade; it demonstrates a fundamental restructuring of the economic order. The constraints of the physical world are being replaced by the goods and services of the digital world. In this new time, global scale can be achieved at a pace that defies all historical precedents, driven by data that is effectively infinite and highly cost-efficient.

With the development of digital markets, we witnessed a period of unprecedented optimism. On paper, a digital revolution promises lower market entry barriers, easier access to information, and to foster a new era of fair competition. This was cemented through the stories of startups displacing industry titans, operating from their garages and through innovation alone. New opportunities for economic growth were imminent, and it seemed like the digital world's initial promising potential would be the ultimate equalizer, stripping power from entrenched incumbents and placing it in the hands of the innovators. Consumers all over the world were offered world-class services (e.g. search engines, video platforms) at seemingly no monetary cost. Beneath the surface of this unprecedented and overwhelming surplus of consumer welfare, however, market power was quietly consolidating; because the immediate experience of the digital economy was one of convenience and abundance, the gradual enclosure of the internet went largely unnoticed.

As the digital economy continued to develop, the early narrative of openness and constant change gave rise to more difficult discussions about fairness and competition. The initial disruptive energy gradually developed into a more stable and hierarchical structure, moving toward a highly concentrated system in which a small number of dominant platforms act as the primary intermediaries for

global information, communication, and commerce. The promises of the open internet eroded into the reality of closed ecosystems, where competition is allowed only within the limits defined by platform owners.

Digital sovereignty would no longer be just a technical phenomenon. It became a fundamental governance and competition issue. The fight for control over data and digital infrastructure touches upon fundamental questions of market power, barriers to entry, foreclosure, neutral access to essential inputs¹. The digital revolution opened the door for unprecedented opportunities for economic growth and innovation; however, it also introduced a new dynamic: Big Tech companies (Amazon, Apple, Meta, Microsoft, Google, and other major tech corporations) established themselves firmly as dominant forces, shaping the infrastructure of the global economy².

Industries across the world became increasingly interconnected through the influence of Big Tech, which are at the forefront of this transformation and play a key role in reshaping competitive dynamics. By controlling the entry points of the digital economy, Big Tech has assumed a role where they had obtained the power to set the rules of the game. These Big Tech companies were no longer just market participants; they had arguably become the market itself. Subsequently, they controlled operating systems, app stores, cloud infrastructures and advertising networks that the modern economy runs on.

During the COVID-19 pandemic, this power was illustrated clearly: When several European governments wished to establish centralized contact tracing apps, they surrendered their sovereign initiatives and adapted the decentralized frameworks by Google and Apple. As noted by a key Apple executive, these companies had the ability to disable the system regionally at will, subsequently holding the reins over critical public health infrastructure and forcing governments to submit public health infrastructure to a corporate duopoly³.

Market power would no longer exclusively be defined by price or market share, but by who controls the critical digital infrastructure of the digital age. This shift posed an important problem for regulators: Conventional antitrust frameworks, which historically focused on (consumer) price increases

¹ Luciano Floridi, 'The fight for digital sovereignty: What it is, and why it matters, especially for the EU' (2020) 33 *Philosophy & Technology* 369 <<https://link.springer.com/article/10.1007/s13347-020-00423-6>> accessed 29 September 2025, 369.

² Ibid 369.

³ Ibid.

to determine harm, were deemed ill-suited for a digital economy of zero-price services⁴, where consumers “pay” for supposedly free digital services in exchange for their personal data⁵. The dominance of digital markets forced a critical inquiry; Could traditional frameworks, designed to police the scarcity of physical goods, effectively regulate an economy characterized by infinite data and intangible assets?

Additionally, the widening gap between the pace of digital innovation and the speed of legal enforcement created a significant regulatory vacuum. These challenges raised more crucial questions, most notably how to restore and maintain balance in the digital economy, and whether restoration would come at the price of innovation. In a world where a platform’s popularity is critical to its success, keeping customers on both sides of the platform is crucial to its success and viability⁶. Law-makers were facing the challenge of how to adapt these frameworks to address innovation suppression, data sovereignty, and platform dominance without stifling innovation. The goal is not only to regulate Big Tech, but to also ensure that digital economy remains fair, open, and contestable⁷.

Today, we are in a critical time of global antitrust history. The realization that digital markets function differently from conventional industrial markets has initiated a re-evaluation of how markets should be governed. The question is no longer whether these platforms hold power, but whether the legal systems have the capacity to regulate it. Additionally, as we face the rise of new components like artificial intelligence (AI), the stakes have grown only higher. As new challenges arise, in the absence of an appropriate regulatory response, the digital economy may cement itself a structure where a few powerful companies dictate its trajectory, ending the internet’s role as a driver of innovation and change.

⁴ Lina Khan, ‘Amazon’s Antitrust Paradox’ (2017) 126 Yale Law Journal 710 <<https://yalelawjournal.org/note/amazons-antitrust-paradox>> accessed 17 September 2025, 738.

⁵ Christos A Makridis and Joel Thayer, ‘The Big Tech Antitrust Paradox: A Reevaluation of the Consumer Welfare Standard for Digital Markets’ (2024) 27 Stanford Technology Law Review 71, <<https://ssrn.com/abstract=4512410>> accessed 29 November 2025, 116.

⁶ Arianna Andreangeli, ‘Platform Markets, Dominance Issues and Single- and Multi-Homing of Merchants: A Real or Hypothetical Choice?’ (2021) 17 (2) European Competition Journal 269 <<https://www-tandfonline-com.uaccess.univie.ac.at/doi/pdf/10.1080/17441056.2021.1872928?needAccess=true&>> accessed 5 December 2025, 273.

⁷ European Commission, ‘About the Digital Markets Act (DMA)’ European Commission, ‘About the Digital Markets Act (DMA)’ <https://digital-markets-act.ec.europa.eu/about-dma_en> accessed 22 December 2025.

Thesis objectives and outline

This thesis compares the respective antitrust law enforcement approaches of the European Union (EU) and the United States (US), as well as their efficiency in diagnosing and remedying market power in digital data and AI-driven markets. Adopting a functional and comparative approach, the analysis commences with the economic realities of digital platforms, progresses to the specific regulatory responses in both jurisdictions, and culminates in a critical evaluation of recent enforcement actions against Google to determine if current remedies are sufficient to prevent the entrenchment of digital monopolies.

The goal of the first section is to establish the theoretical and economic framework of digital dominance. It analyzes the unique characteristics of zero-price markets, focusing on data scale, network effects, and the tipping phenomenon that distinguishes digital platforms from conventional industries. This section critically evaluates the restrictions of the traditional Consumer Welfare Standard (CWS), emphasizing how its price-centric approach has historically created a blind spot for non-price threats such as innovation foreclosure and privacy degradation, thereby requiring a modernized approach to defining market power.

The second section conducts a comparative analysis of evolving regulatory landscapes in the EU and the US. It evaluates the European shift toward ex-ante regulation under the Digital Markets Act (DMA), contrasting its gatekeeper designations with the US approach, which lacks an equivalent legislative framework. While bills such as the American Innovation and Choice Online Act (AICOA), and the Open App Markets Act have been proposed to mirror the Digital Markets Act's framework, enactment has not been carried out yet. Nonetheless, under existing antitrust laws, the US has pivoted toward a revival of aggressive ex-post litigation. This section assesses the shift in US enforcement philosophy under leaders like Lina Khan and Jonathan Kanter who seek to address modern data monopolies through a broader interpretation of existing antitrust frameworks. This happens in direct contrast to the EU's strategy of establishing new, sector-specific statutes.

The third section applies these theoretical principles to economic reality through detailed case studies of the European Commission's Google AdTech and the United States v Google (Search) investigations. By treating these parallel cases as a comparative control group, this section isolates the efficacy of different remedy designs, contrasting the US focus on exclusionary contracts with the EU's focus on internal self-preferencing. This section evaluates the failure of behavioral remedies, such

as data sharing mandates, to resolve structural conflicts of interest. Finally, this section analyzes how the rise of Generative Artificial Intelligence (GenAI) challenges remedy frameworks and why current enforcement toolkits may be insufficient to prevent the foreclosure of emerging AI-driven markets.

1. The Architecture of Digital Power: Platforms, Data and Control

In the digital age, the fight for digital sovereignty is a defining struggle, touching upon the control of every element of the digital marketplace: software, data, protocols, standards, hardware, service, and infrastructure. Sovereignty is no longer just about territory, it is about who holds the power to influence, shape, and regulate these elements⁸. In this domain, two forms of power can be differentiated. Firstly, companies often hold what can be called poietic power which is the creative ability to design, produce, and maintain the infrastructure in the infrastructure of the digital economy. This gives companies a major influence historically reserved for states, creating a fundamental issue: How can states maintain control over their economy when it relies entirely on private entities for its critical infrastructure and growth? Conversely, states also possess cybernetic power, the ability to regulate and shape these digital ecosystems. Nonetheless, a fundamental tension remains: States often are criticized for being too slow to adapt to technological advancements, creating a problem where private corporations decisively influence the nature of change, while governments struggle to control its direction⁹.

This dynamic is further complicated by the market structure itself. Big Tech companies operate in networked markets where the dynamic of “winner takes it all” prevails, driven by economies of scale, accumulation of data, network effects, and artificial intelligence capabilities¹⁰. This makes it difficult for rivals to compete once a company achieves dominance. Additionally, to a certain degree, the digital landscape has settled into a “de facto monopoly” or “digital peace”. In this, influential tech players avoid direct competition in each other’s main territories to maintain high margins. In the past, intense rivalries would characterize these markets, where tech giants like Google and Meta would fight for dominance in the social media market.

Often, these battles would have clear results, as seen in Microsoft’s failed attempt to compete with Google in the market for search engines (Bing vs Google) or Google’s repeated losses against Meta

⁸ Floridi (n 1) 370-371.

⁹ Ibid 371.

¹⁰ Ibid 372-373.

in the social media space (Google Plus vs Facebook/Instagram)¹¹, demonstrating that network effects (a phenomenon according to which a service becomes more valuable to each user as the total number of users increases¹²) can create insurmountable market entry barriers. Accordingly, following Google's failed attempts to challenge Meta's dominance repeatedly, Google would move on to rule the information market, and Meta would maintain its dominance in social media platforms. Furthermore, the dominance of tech giants creates an unattractive environment where investors refuse to fund start-ups that compete with Big Tech companies, fearing they would fail or be acquired before they achieve scale – this consolidation effectively harms innovation¹³.

Companies can act as gatekeepers, determining access to markets and services, which raises profound questions about accountability and fairness. If governments fail to assert their regulatory power, they risk surrendering control to corporations that prioritize profit over public welfare, consumer choice and innovation. On the other hand, overly rigid intervention could stifle innovation and drive corporations to look for loopholes or relocate to more favorable jurisdictions¹⁴. Under the scope of antitrust, this creates a unique challenge. Traditional frameworks designed to identify and fight price-fixing are ill-suited to regulate AI-driven dominance. Artificial intelligence (AI) serves as an amplifier of market power, allowing firms to create self-reinforcing feedback loops¹⁵. Regulators have also accused Big Tech companies like Google of utilizing AI to engage in self-preferencing, prioritizing their own services (e.g. in search results while demoting rivals)¹⁶. However, because these decisions are made by opaque “black box” algorithms, regulator cannot identify them easily, which leads to an enforcement gap: if an AI-driven system optimizes for monopoly outcomes without clear human instructions, it becomes very difficult to prove anticompetitive intent under traditional frameworks¹⁷.

¹¹ Ibid 371.

¹² Damien Geradin and Dimitrios Katsifis, ‘Strengthening Effective Antitrust Enforcement in Digital Platform Markets’ (18 October 2021) <<https://ssrn.com/abstract=3940766>> accessed 21 September 2025, 9.

¹³ OECD, *Start-Ups, Killer Acquisitions and Merger Control* <https://www.oecd.org/en/publications/start-ups-killer-acquisitions-and-merger-control_dac52a99-en.html> accessed 12 November 2025, 35.

¹⁴ Floridi (n 1) 372-373.

¹⁵ Ariel Ezrachi and Maurice E Stucke, *Virtual Competition: The Promise and Perils of the Algorithm-Driven Economy* (Harvard University Press 2016) <<https://www.jstor.org/stable/j.ctv24w63h3>> accessed 20 December 2025, 238.

¹⁶ Case AT.39740 *Google Search (Shopping)* C(2017) 4444 final (27 June 2017), para 344.

¹⁷ Frank Pasquale, *The Black Box Society: The Secret Algorithms That Control Money and Information* (Harvard University Press 2015), <<https://www.jstor.org/stable/j.ctt13x0hch>> accessed 20 December 2025, 14.

1.1. Structural Features of Digital Markets

Digital markets fundamentally differ from their traditional, industrial counterparts. They are defined by their dependence on, multi-sided platforms – intermediaries that enable distinct but interdependent groups of users to interact (e.g. app developers and device users, or consumers and advertisers).¹⁸ Furthermore, digital markets are characterized by a particular set of economic features, most notably: strong economies of scales and powerful network effects¹⁹, but also data-driven value generation, and established ecosystem integration²⁰.

These features build upon another to concentrate market power in the hands of dominant platforms, establishing self-reinforcing loops (e.g. in the context of AI) that are difficult for rivals to challenge. While some features like economies of scale can be found as well in conventional industries, their intensity and combination in the digital context create competitive dynamics which are substantially different. Acknowledging these differences is crucial for understanding why digital market power is so durable, and for comprehending the unique challenges this poses for antitrust enforcement²¹.

1.1.1. Scale Advantages as Entry Barriers

One of the major differences is the presence of extreme economies of scale. In digital markets, the process of establishing a platform necessitates large upfront investment in software development and infrastructure. However, once the platform is operational, the costs of serving new users are negligible. For instance, once a search engine becomes operational, the costs of processing one additional search query are marginal at best. This structure heavily benefits incumbents. Not only can they spread their high fixed costs over an enormous user base, but they can also provide services for free which will expand that base even further.

Conversely, to compete, new entrants would need similar large-scale operations to reach a similar quality level, size and unit cost as the incumbent²². However, scale is not the only entry barrier. Even if a newcomer could match the incumbent's technology, they need to overcome the challenge of reputation. Big Tech companies have built substantial brand recognition, which functions as a

¹⁸ Geradin and Katsifis (n 12) 7.

¹⁹ Ebru Gökçe Dessemond, *Restoring Competition in 'Winner-Took-All' Digital Platform Markets* (20 January 2020) UNCTAD Research Paper No 40 <https://digital-markets-act.ec.europa.eu/high-level-group-digital-markets-act-public-statement-artificial-intelligence-2024-05-22_en accessed 30 December 2025> accessed 25 December 2025, 1.

²⁰ Geradin and Katsifis (n 12) 8.

²¹ Ibid.

²² Ibid 8

psychological barrier. For a user to switch from an established name to an unknown competitor, the competing service would need to offer significantly higher value either in price, quality, or features, to close the trust gap.

1.1.2. The Role of Network Effects in Market Tipping

Digital platforms rely on network effects according to which a service gains value as more users join. Direct network effects occur when services become more valuable to users as the total number of users rises (e.g. social media platforms become more valuable the more users are on it). Indirect network effects occur when the value of a platform to one group of users relies on the size of the other group (e.g. more users make more precise ad targeting possible, increasing value of advertisers)²³. To succeed, platforms need a significant number of users on both sides which can be challenging to new entrants. Rivals compete to reach this tipping point as quickly as possible, typically subsidizing services (offering them at zero cost) to reach the market²⁴.

Data functions as fuel for platform services and thereby plays a core role in digital markets. It can also function as a market entry barrier: Platforms operate on a data feedback loop as vast amounts of personal and behavioral data are collected, stored, and processed through algorithms (e.g. ad targeting, search relevance) which will attract more users. More precise targeted advertising, for example, could increase revenue, which then can be reinvested into fine-tuning service quality which attracts more users who provide more data. Contrary to the argument that data creates diminishing returns, these enhancements accumulate over time in AI-driven markets. A search engine with decades of historical data possesses a significant quality advantage over newcomers with only months of data, posing an almost insurmountable entry barrier.

Once a platform tips the market, displacing it is very difficult. Network effects mean that users are not just connected to the product features, but also to history, relationships and embedded integrations the platform hosts. Thus, even if competitors offer better innovation, consumers may not switch because the value of the platform lies not just in the features but also in its reputation and recognition. For instance, a new social media platform with better privacy features may not displace an incumbent because switching platforms would necessitate abandoning established connections, content history, and communities. This reluctance is further magnified when both professional and

²³ Dessemond (n 19) 4.

²⁴ Geradin and Katsifis (n 12) 9.

personal activities are concentrated on the platform. A mitigating factor is multi-homing (users using different platforms simultaneously). Encouraging multi-homing ensures that markets could remain oligopolies instead of tending towards monopolies²⁵. Policies that foster and preserve multi-homing (e.g. interoperability mandates) can keep markets more contestable.

1.1.3. Ecosystem Leverage as a Barrier to Entry

Dominant platforms strengthen their market power through ecosystems – by using control over data, user bases, and infrastructure in one market to establish dominance in another. Shared data sets allow incumbents to optimize new services from day one²⁶. For instance, Google leveraged its search dominance to populate its separate Google Shopping service. By using search query data to identify what products users searched for and which retailers they visited, it optimized its shopping service algorithms instantly using insights from its search monopoly. As noted by Google, “Personalized listings...are shown to users based on recent activity, such as searches”²⁷.

Platforms can also leverage their user bases to bypass the cold start problem that typically dooms standalone entrants. This allows dominant firms to lock users into their ecosystems. By linking data through Search, YouTube, Search, and Maps, Google would create highly detailed user profiles that no standalone competitor could match. This ecosystem locking creates significant barriers to entry: To compete with Google, a competitor needs to effectively build an entire alternative ecosystem to match the integrated value – simply building a better search engine will not suffice. Accordingly, Google leveraged its ecosystems to launch Google Meet²⁸. For its launch, Google did not require a user base from scratch as it integrated the tool directly into Google Workspace and Gmail²⁹, making it immediately available to millions of users. In practice, ecosystem leverage helps to transform dominance into a self-sustaining competitive moat, blocking off entire markets to meaningful new entries.

²⁵ Bundeskartellamt and Autorité de la concurrence, *Competition Law and Data* (10 May 2016) <<https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html%20accessed%2022%E2%80%AFDecember%E2%80%AF2025>> accessed December 2025, 29.

²⁶ Geradin and Katsifis (n 12) 12.

²⁷ Google, ‘How Does Google Shopping Compare with Other Shopping Sites?’ (Google Shopping Help) <<https://support.google.com/googleshopping/answer/9128904?hl=en#zippy=%2Chow-does-google-shopping-compare-with-other-shopping-sites>> accessed 16 November 2025.

²⁸ Geradin and Katsifis (n 12) 12.

²⁹ Google, ‘Start or join a Google Meet video meeting directly from Gmail’ (Google Workspace Updates, 16 April 2020) <<https://workspaceupdates.googleblog.com/2020/04/meet-in-gmail.html>> accessed 5 January 2026.

1.2. Enforcement Challenges in Digital Markets

1.2.1. The Pacing Problem

Digital platforms are defined by extreme speed compared to the slow pace of regulatory enforcement. In the EU, the recently enforced Digital Markets Act aims to address this via ex-ante obligations, pushing the focus from punishing past behavior to prevent unlawful conduct before they start³⁰. However, since the DMA is only complementary to traditional competition law³¹, we still have the problem that traditional regulatory interventions typically take several years. In this period, incumbents can benefit from exclusionary conduct to eliminate emerging threats before intervention from regulators can happen.

Once the market successfully tips toward the incumbent, the damage is often irreversible. By the time a monetary fine or cease-and-desist order has been issued, rivals may already be out of business, and the incumbent can rely on its structural advantage (data, network effects, etc.) to maintain (unlawfully acquired) dominance without needing more aggressive behavior³². Furthermore, under traditional EU competition law (Article 102 TFEU), companies can only be penalized after dominance has been established, which creates a dangerous blind spot: platforms can engage in exclusionary conduct to achieve dominance, but if it is not yet dominant as per the law, they cannot be stopped until it is too late.

In the absence of viable entry threats and timely regulatory intervention, incumbents can engage in exploitative practices, imposing unfair trade conditions on business users who have no credible alternatives³³. A prominent example is Apple's ability to force its mandatory payment system on developers, extracting a commission of 30% - a fee that in the presence of credible alternatives in a competitive market would be unsustainable³⁴.

³⁰ Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on Contestable and Fair Markets in the Digital Sector and Amending Directives (EU) 2019/1937 and (EU) 2020/1828 [2022] OJ L265/1, recitals 5 and 7.

³¹ Ibid recital 11.

³² Geradin and Katsifis (n 12) 14.

³³ Ibid 15.

³⁴ European Commission, 'Antitrust: Commission Sends Statement of Objections to Apple on App Store Rules for Music Streaming Providers' (Press Release, 16 June 2020) <https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1073> accessed 16 November 2025.

1.2.2. Regulatory Blind Spots: Information Gaps and Narrow Casework

A core enforcement challenge is the significant information gap between regulators and platforms. This problem is distinct from but yet closely connected to the aforementioned pacing problem. While the pacing problem relates to the speed mismatch between market evolution and regulatory processes, information asymmetry concerns the depth of insight regulators can gain into platform operations; Antitrust bodies lack visibility in opaque algorithms and internal data systems that influence market outcomes. Incumbents can engage in subtle self-preferencing or subtle exclusionary tactics that are difficult to detect from third parties. Thus, regulators building bullet-proof cases to withstand scrutiny will require full access to the black box of the platform's internal systems³⁵. In the absence of access, investigations are delayed by years, which subsequently reinforces the pacing problem: by the time proof is gathered, the harm to competition has typically become permanent.

Rather than addressing the ecosystem, narrow and case-specific actions are pursued which contributes to the failure of digital enforcement. By focusing on isolated violations, this obscures harm where various minor actions each pose a potential threat but are dismissed when investigated individually (also known as probabilistic harm). However, as hardly identifiable are so-called synergistic harms, where a series of individually lawful actions have an overall anticompetitive effect when combined.

The Google Shopping case proves this dilemma: While the European Commission (EC) successfully sanctioned Google for favoring its own shopping service by giving it a more favorable positioning and display when compared to those of rival comparison-shopping services, the remedy was restricted to that vertical³⁶, albeit similar if not identical self-preferencing in other verticals would be likely³⁷. By narrowing its focus on the likely clearest evidence, the EC risked neglecting Google's broader strategy of ecosystem leverage and allowed the monopoly to remain largely intact³⁸. This lack of visibility over internal systems also amplifies other structural enforcement limits, particularly the measurement challenge in zero-price markets.

Typically, traditional antitrust frameworks focus on price and output effects which creates a blind spot in digital markets, where services like social media platforms are offered to users at no cost.

³⁵ Pasquale (n 17) 14.

³⁶ *Google Search (Shopping)* (n 16) para 341.

³⁷ Gerardin and Katsifis (n 12) 17.

³⁸ Ibid 17-18.

Thus, traditional price-based harm is rare and instead, competition is rather stifled through the exclusionary practices of dominant firms, meaning the true harm to consumers is limited innovation and the lack of choice³⁹. Apple's requiring developers to use only its proprietary payment system strips developers of revenue that could be invested in new features or business models instead. This restriction effectively harms the competitive process itself; a form of harm that narrowed price-based models typically fail to address⁴⁰.

1.3. The EU Legal Framework

Having described the structural features of digital markets and the enforcement challenges that come with it, it is important to consider the legal frameworks available to EU regulators. Thus, the following sections detail how EU law (particularly Article 102 TFEU) frames the assessment of unlawful conduct by dominant platforms.

1.3.1. Balancing Market Structure and Consumer Welfare

Article 102 TFEU is the primary legal framework for the regulation of unilateral conduct by dominant companies within the EU⁴¹. Unlike US antitrust law, which has historically focused on consumer welfare, the EU framework balances consumer welfare with the objective of safeguarding competitive market structure and the single market⁴². The EU has gradually incorporated economic analysis to make sure that it protects competition instead of merely the competitors and its stance on dominance is even stricter⁴³. The Court of Justice of the European Union (CJEU) has clarified that Article 102 TFEU prohibits behavior that hinders the maintenance or growth of competition⁴⁴. However, it does not make it a safety net for inefficient companies; firms that cannot compete on merit (quality, price, innovation) will fail. The EU antitrust framework targets dominant companies that employ tactics straying from competition on the merits to exclude equally efficient competitors. However, if a dominant company can prove consumers benefit from its conduct by lowering prices, improving efficiency, increasing product alternatives, driving innovation and enhancing quality, its

³⁹ Ibid 19.

⁴⁰ Case AT.40437 *Apple – App Store Practices (Music Streaming)* C(2024) 1307 final (4 March 2024), para 119.

⁴¹ *Consolidated Version of the Treaty on the Functioning of the European Union* [2012] OJ C326/47.

⁴² Justin Lindeboom, 'Towards a Unified Judicial Philosophy of Article 102 TFEU? Servizio Elettrico Nazionale SpA (C-377/20)' (6 June 2022) University of Groningen Faculty of Law Research Paper No 22/2022 <<https://ssrn.com/abstract=4171718>> accessed 15 October 2025, 4.

⁴³ Case C-377/20 *Servizio Elettrico Nazionale SpA* ECLI:EU:C:2022:379, paras 45-46.

⁴⁴ Ibid para 44.

practices might not necessarily be considered abusive, e.g. when potential harm is outweighed by the positive effects that competition and competitors can benefit from⁴⁵.

This principle, safeguarding the competitive process rather than protecting individual competitors, forms the baseline for all subsequent EU enforcement in digital markets. Furthermore, it also distinguishes the EU's approach from the more price-focused US approach, a divergence further examined in later chapters.

1.3.2. Capability of Foreclosure: The EU Standard of Proof

Building on the EU's emphasis on safeguarding the competitive market structure, a critical procedural element is the evidentiary standard applied in abuse of dominance instances. Accordingly, this establishes both the type of evidence necessary to establish a violation and the point at which the burden of proof shifts to the dominant firm.

A definitive distinction in EU law is the standard of proof in the context of harm. The EC does not need to prove that there was consumer harm or that a rival has been actually eliminated⁴⁶. Instead, the legal standard is whether the behavior was capable of restricting competition at the time it was engaged in. Even if a rival survives, or if the strategy does not succeed due to external market changes, the conduct remains unlawful if it was capable of foreclosing rivals⁴⁷. Once the EC demonstrates this potential, the burden shifts to the dominant company, however, it is not sufficient for the firm to illustrate that no harm occurred, and they must prove that the behavior was incapable of limiting competition⁴⁸. While demonstrating malicious intent is not necessary for a violation, proof of such intent can be powerful corroborating evidence for enforcement⁴⁹. This capability requirement demonstrates the EU's preventive enforcement philosophy; stopping conduct that could foreclose rivals before the harm becomes irreversible.

1.3.3. Objective Justification and Efficiency as a Defense

In alignment with the EU's goal to protect market structure, it is also important to consider that maintaining a dominant position is not itself forbidden. The critical question is whether the conduct

⁴⁵ Ibid paras 45-46.

⁴⁶ Ibid paras 48-50 and 53.

⁴⁷ Case T-612/17 *Google and Alphabet v European Commission* ECLI:EU:T:2021:763, para 438.

⁴⁸ Case C-413/14 P *Intel Corp v European Commission* ECLI:EU:C:2017:632, para 138.

⁴⁹ *Servizio Elettrico Nazionale* (n 43) para 63.

in question can be justified objectively through efficiencies that outweigh its potential to foreclose competition.

Ultimately, dominance itself is not unlawful. Dominant companies can escape liability if they can demonstrate an objective justification. They need to prove that its practices produce efficiencies, e.g. technical improvements, lower prices, or better quality that outweigh the anticompetitive results and effectively benefit consumers. This shift brings Article 102 TFEU closer to the efficiency exemptions of Article 101 (3) TFEU – however, meeting the high evidentiary burden to justify exclusionary conduct remains extremely difficult in practice⁵⁰.

Thus, this dynamic acts as a (very) narrow safety defense for legitimate competitive conduct by dominant companies. However, in practice, meeting the evidentiary burden to demonstrate proportionate efficiencies can be difficult, showing that the benefits to consumers and competition outweigh the damage.

1.3.4. Defining Abusive Conduct

Having analyzed when dominant conduct can be excused through objective justification, it is equally important to define the legal boundaries of conduct that will be qualified as abusive under EU law. This definition functions as the distinction between legitimate competition on the merits and anticompetitive market distortion.

To assess what constitutes abusive exploitation, EU case law relies on a broadly cited definition established in the *Hoffmann-La Roche* case. As such, abusive conduct is defined as conduct that influences the market structure through practices different from those governing normal competition. This distinction is critical because while a dominant company is entitled to compete on the merits (lower prices, better quality), it is prohibited from using methods or resources that deviate from normal performance-based competition to obstruct the maintenance or growth of competition. The unlawfulness is not assessed by other fields of law (e.g. contract law or data protection law) but exclusively by whether the practices impair the structure of effective competition⁵¹.

⁵⁰ Lindeboom (n 42) 4-5.

⁵¹ Case 85/76 *Hoffmann-La Roche & Co. AG v Commission* [1979] ECR 461, para 91.

This is reinforced by the principle of special responsibility, according to which a firm in a dominant position has a special responsibility not to allow its behavior to impair genuine undistorted competition⁵². This means that conduct considered lawful for a non-dominant company (such as refusing to supply a rival or aggressive price cutting) may be qualified as abusive when engaged by an incumbent. Thus, a dominant company is not just prohibited from eliminating competitors, but it is held to a higher standard of conduct to make sure that remaining competition is protected against methods that deviate from competition on the merits as well.

To further assess the idea of “abusive exploitation” of a dominant market position, it also needs to be determined what type of unlawful conduct can be flagged by competition authorities. Assessing whether behavior by a dominant firm is abusive can hinge on the classification criteria: should it be judged by whether the practice relies on resources available to all competitors in the relevant market or by whether it involves exclusive resources or methods that fall outside the bounds of normal competition?⁵³ In digital markets, where advantages such as proprietary data sets or integrated ecosystems blur the line between exclusionary means and normal competitive resources, this can be very complex.

1.4. Challenges Specific to the Digital Economy

The principles set out under Article 102 TFEU carry significantly more complexity in application in the context of digital markets, where consumer services are provided at zero monetary cost. This leads to fundamental challenges in defining relevant markets, identifying harm and determining dominance.

1.4.1. The Free Service Paradox: Defining Relevant Markets in the Digital Economy

A particular enforcement challenge in the digital economy is the prevalence of zero-price markets. In conventional antitrust, consumer harm is typically measured by price increases. This traditional metric assumes that a measurable fee exists, allowing antitrust authorities to quantify harm in monetary terms. However, platforms like Google and Meta offer services for free, monetizing users via ads. In this context, it is difficult to define consumer harm. Since consumer prices cannot get lower than zero, harm must be assessed in non-monetary terms, for instance, through reduced choice,

⁵² Case 322/81 *NV Nederlandsche Banden Industrie Michelin v Commission of the European Communities* [1983] ECR 3461, para 57.

⁵³ *Servizio Elettrico Nazionale* (n 43) para 65.

lower innovation or degraded privacy⁵⁴ (the latter being noted in the 2016 Joint Report by the German and French competition authorities as well, affecting the quality of a service⁵⁵).

Particularly in Big Tech ecosystems, market dominance is not determined just by looking at market share, but rather by assessing the structural features of the relevant market, the number and strength of rivals, and the competitive dynamics influencing the industry. Platforms regularly compete on the scope of offerings, user experience, and service quality rather than on price. This is because most services provided by Big Tech companies, such as social networks, app stores, and search engines, are provided at zero monetary cost to the consumer. Therefore, the decisive factors in attracting and keeping consumers are access, quality, scope and innovation⁵⁶.

One of the main drivers of dominance in these markets is indirect network effects. For instance, Apple's user base is substantially big and monetarily valuable so that developers cannot (reasonably) neglect it, which reinforces Apple's leverage in shaping terms for its App Store⁵⁷. Similarly, Google has a substantial consumer base that increases its value for advertisers; by funding free services such as search, the platforms are more valuable for users. When one side of a market is locked in effectively, competitive bottlenecks surface, and the other side is pushed to use the dominant platforms obtain access to those users⁵⁸. In Google's case, for example, a multitude of agreements place Google as the default search engine on countless devices⁵⁹. To reach those consumers, advertisers need to participate in and comply with Google's ecosystem. These bottlenecks show how dominance in one market side can translate into powerful leverage over the other, albeit the consumer side is "free".

While these competitive bottlenecks typically resemble long-term dominance, change can still happen. Especially in markets with short innovation cycles and low market entry barriers, incumbents can theoretically be displaced. User behavior is a key indicator to assess whether a platform's dominance is contestable or entrenched, particularly regarding multi-homing patterns. While high switch rates would imply healthy competition, single-homing suggests unique value, locked-in demand, or

⁵⁴ Makridis and Thayer (n 5) 116.

⁵⁵ Bundeskartellamt and Autorité de la concurrence (n 25) 28.

⁵⁶ Andreangeli (n 6) 284.

⁵⁷ Makridis and Thayer (n 5) 110.

⁵⁸ Andreangeli (n 6) 286.

⁵⁹ 'Google's Payments to Apple Reached \$20 Billion in 2022, CUE Says' *Bloomberg News* (1 May 2024)

<<https://www.bloomberg.com/news/articles/2024-05-01/google-s-payments-to-apple-reached-20-billion-in-2022-cue-says>> accessed 2 November 2025.

high switching costs (e.g. most mobile users being exclusive to either Apple's or Android's operating system)⁶⁰.

To evaluate competitive fairness under Art. 102 TFEU, it is essential to clearly define the scope of the relevant market, including product, geography, and time. This task, challenging in traditional markets, is much more complex in digital markets. This is because the nature of zero-price markets raises fundamental questions in antitrust law regarding whether non-monetary exchange relationships are of any market quality. For example, Google's search engine is free to use and switching to another search engine costs the user no more than a single click. Under these circumstances, assessing how a user market can be defined for offers provided at no cost is difficult⁶¹.

Historically, national authorities in the EU initially denied the existence of a relevant market for free services due to the lack of a monetary exchange relationship⁶². Similarly, the EC itself has at times specifically left the question open, by passing a definitive ruling on whether a non-monetary relationship was to be qualified as a market in the traditional sense⁶³. Overseas, US District Courts have frequently dismissed antitrust claims in resembling contexts, ruling that without a purchase, there would be no trade or commerce to monopolize⁶⁴. Subsequently, the reluctance of antitrust authorities to recognize free service markets as markets in their own right has historically prevented timely intervention in many instances.

1.4.2. The Legal Recognition of Zero-Price Markets

With Big Tech playing an increasingly central role in the digital economy, judicial perception has evolved to effectively close the zero-price gap. A significant shift happened with the Ninth Amendment of the Acts against Restraints on Competition (GWB), which introduced Section 18 (2a), which explicitly confirmed that a market can also exist where services and products are provided at no cost⁶⁵. This legislative shift validated the stance taken by the German Federal Cartel Office (FCO), where it classified the non-monetary use of a social network as a market under competition

⁶⁰ Andreangeli (n 6) 285.

⁶¹ Robert H Bork, 'Antitrust and Google' *Chicago Tribune* (6 April 2012) <<https://www.chicagotribune.com/2012/04/06/antitrust-and-google-2/>> accessed 2 November 2025.

⁶² Düsseldorf Higher Regional Court, *HRS*, VI-Kart 1/14 (V) (9 January 2015) para 43.

⁶³ Case IV/M.1574 *Kirch/Mediaset* (Decision of 3 August 1999), para 11.

⁶⁴ *Kinderstart.com LLC v Google Inc.*, No C 06-2057 JF, 2007 WL 831806 (ND Cal 16 March 2007), para 5.

⁶⁵ Ninth Amendment to the Act Against Restraints of Competition of 1 June 2017, *Bundesgesetzblatt*, Year 2017, Part 1, No 33 (Germany), § 18 (2a).

law⁶⁶. This ruling confirmed that services significantly influence competitive structures independent of monetary payment⁶⁷. If the existence of a market were refused merely because a service is provided at no cost, incumbents could entrench their positions without regulatory scrutiny. This perspective aligns with the goals of Article 102 (a) TFEU according to which unfair trading conditions are prohibited, not just unfair prices. Subsequently, the protection of competition extends to non-monetary aspects, safeguarding users from exploitative terms and conditions even in the absence of monetary components⁶⁸.

Now that free markets are recognized legally, the challenge moves to defining their boundaries. Traditional methods like the “Small but Significant Non-transitory Increase in Price” (SSNIP) test, which determine if a price hike of five to ten percent would cause switching⁶⁹, are ineffective where the price is zero. However, the “Small but Significant Non-transitory Decrease in Quality” (SSNDQ) test, which measures whether a user would switch to a competitor if the dominant platform degraded in quality (e.g. less privacy or more intrusive ads) or the SSNIC test, which evaluates switching behavior if non-monetary costs increase⁷⁰ (e.g. personal data being treated as currency and the additional cost of providing more data) are considered more applicable to zero-price markets than the SSNIP test, but both still face practical limitations. This is because the component of quality is a subjective parameter that is more difficult to quantify than monetary price.

To overcome these qualification limitations, market definition in digital markets focuses on functional substitutability. Platforms like Meta or Google are multi-sided, servicing distinct groups (e.g. private users and advertisers) whose demand is interconnected through indirect network effects⁷¹. There are, however, two platform types to be differentiated: Transactional platforms facilitate a direct exchange between two groups and are defined by the observability and presence of a transaction between the two groups of platform users (e.g. payment cards or eBay)⁷². Contrarily, non-transactional platforms do not incentivize a direct transaction between advertisers and users (e.g. social

⁶⁶ Bundeskartellamt, *Facebook*, Decision B6-22/16 (6 February 2019), para 239.

⁶⁷ Bundeskartellamt and Autorité de la concurrence (n 25) 12-13.

⁶⁸ Article 102(a) TFEU.

⁶⁹ OECD, *Quality Considerations in the Zero-Price Economy* (Note by the European Union DAF/COMP/WD(2018)135, 23 November 2018) <[https://one.oecd.org/document/DAF/COMP/WD\(2018\)135/en/pdf](https://one.oecd.org/document/DAF/COMP/WD(2018)135/en/pdf)> accessed 20 December 2025, 5.

⁷⁰ OECD, *Summary of Discussion on the Roundtable on Quality Considerations in Zero Price Markets* (DAF/COMP/M(2018)2/ANN7/FINAL, 22 April 2020) <[https://one.oecd.org/document/DAF/COMP/M\(2018\)2/ANN7/FINAL/en/pdf](https://one.oecd.org/document/DAF/COMP/M(2018)2/ANN7/FINAL/en/pdf)> accessed 20 December 2025, 3.

⁷¹ Andreangeli (n 6) 271.

⁷² Lapo Filistrucchi, Damien Geradin, Eric EC van Damme and Pauline Affeldt, *Market Definition in Two-Sided Markets: Theory and Practice* (16 March 2013) TILEC Discussion Paper No 2013-009 <<https://ssrn.com/abstract=2240850>> accessed 2 December 2025, 6.

media, search engines). They are defined by the absence of a direct transaction between the two groups of a platform⁷³.

As the interests of the two groups differ (advertisers want attention and users desire content), it is required to characterize them as two different, though interconnected markets. In this context, the assessment of interchangeability is further complicated through network effects. A platform with a substantial user base provides a fundamentally distinct value proposition than a smaller competitor, restricting substitutability effectively⁷⁴.

1.4.3. Determination of Market Power

For the application of Art. 102 TFEU, once the relevant market has been identified, the existence of market power within that area must be defined. While Art. 102 TFEU prohibits dominant companies from abusing their position to harm trade or competition, it does not explicitly define the term of dominant position. The general definition of dominance provided by the CJEU in the United Brands case (possession of economic strength allowing independent behavior) applies to many sectors, its application to the digital market needs a more specific approach⁷⁵.

Typically, independence is defined in the ability to charge supra-competitive prices⁷⁶. Under the AKZO presumption, a market share of fifty percent is evidence of dominance⁷⁷. However, in zero-price platforms, these monetary metrics do not apply. Since services are provided at no cost, high market shares based on sales revenue are not possible to calculate, and the capability to raise prices is not a useful metric of power in this context, which is why the provision of § 18 (3a) has been introduced in the Ninth Amendment to the GWB: This provision acknowledges that for multi-sided platforms, dominance assessment must consider new criteria, including multi-homing, network effects and access to data⁷⁸.

⁷³ Ibid.

⁷⁴ Bundeskartellamt, *Facebook* (n 66), para 265.

⁷⁵ Case 27/76 *United Brands Company and United Brands Continentaal BV v Commission of the European Communities* [1978] ECR 207, para 65.

⁷⁶ European Commission, 'Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings' <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=oj:JOC_2009_045_R_0007_01> accessed 11 October 2025, para 11.

⁷⁷ Case C-62/86 *AKZO Chemie BV v Commission of the European Communities* [1991] ECR I-3359, para 60.

⁷⁸ Ninth Amendment to the GWB (n 65) § 18 (3a).

Since it is not possible to calculate dominance in digital markets via sales, it is better assessed by volume of user engagement. As ruled in the Facebook/WhatsApp merger case, relevant metrics include the number of active users or the time spent on the platform (for social networks)⁷⁹. For search engines, it could include the number of search queries. However, a large user base alone does not guarantee dominance if switching is easy which highlights the importance of multi-homing. If users can switch easily, a high market share may not prove entrenched power⁸⁰. Contrarily, in platforms like social networks, direct network effects can establish a lock-in where users cannot leave without abandoning their established social graph⁸¹. As the German FCO illustrated in the Facebook case, direct and indirect network effects act as significant barriers for new competitors entering the market⁸². Thus, determining dominance in zero-price markets requires going beyond traditional price and revenue-based metrics to alternative indicators such as multi-homing rates, network effect strength, and data access.

1.4.4. Innovation Competition and Dynamic Market Assessment

Due to their nature as zero-price markets, digital markets are rather heavily driven by technological advancements and innovation, which is why innovation competition often becomes a more accurate metric of market success. The ability to innovate permanently and introduce new services illustrates market power more than static snapshots like market share. This aligns with the ruling of the court in the Cisco case (in the context of the Microsoft/Skype merger). Accordingly, the court acknowledged that in the consumer communication market, which is defined by short innovation cycles and free services, high market shares are typically temporary. Market shares might reflect a quick pace of change rather than a permanent competitive advantage. Therefore, a nuanced assessment on a case-by-case basis is necessary, as traditional metric may not capture the true competitive landscape⁸³.

Conversely, the assumption of market power is justified when these metrics persist over an extended time period. If market structures remain intact for years despite competitors' conduct, this indicates the existence of high market entry barriers. A modern example of this would be the field

⁷⁹ Case COMP/M.7217 *Facebook/WhatsApp* (Decision of 3 October 2014), para 97.

⁸⁰ *Ibid* para 99.

⁸¹ Bundeskartellamt, *Facebook* (n 66) para 448.

⁸² *Ibid* para 494.

⁸³ Case T-79/12 *Cisco Systems Inc. and Messagenet SpA v Commission* ECLI:EU:T:2013:635, para 69.

of Generative AI. As the EC noted in a 2024 Policy Brief, despite the monetization in this sector being limited, Big Tech companies are entrenching their positions. In this context, the dependence on traditional market metrics like market shares would be impossible. Instead, the identification of dominance must rely on alternative metrics such as network effects, processing capacity, access to data, user activity, or the strength of the ecosystem. These indicators significantly shape competitive dynamics and need to be weighed heavily when determining market power in the next generation of online services⁸⁴.

However, the role of data as a permanent entry barrier is not guaranteed. As scholars Gal and Lynskey highlight, the rise of synthetic data (artificial data created by generative algorithms) could alter these competitive dynamics fundamentally⁸⁵. Unlike traditional data which needs a substantial user base to extract, which is a crucial aspect of the self-reinforcing feedback loop), synthetic data is generated autonomously⁸⁶. Thus, synthetic data could enable smaller entrants to train competitive AI models without requiring a substantial user base similar to Meta or Google, which might disrupt the data advantage that protects incumbents currently, as some competitive advantages drawn from feedback loops and network effects could be disrupted⁸⁷. That being said, this is not a guaranteed fix. If the data resources necessary to generate high quality synthetic data themselves are exclusive to dominant companies in the first place, the technology could further reinforce the network effects, feedback loops and cost advantages of incumbents, rather than eroding it⁸⁸.

1.4.5. Privacy as a Competitive Parameter under Antitrust Law

In digital markets, competitive harm manifests not in higher prices, but usually in the degradation of quality, particularly, the reduction of privacy. While privacy was conventionally viewed only as data protection concern, it has increasingly gained value as a crucial parameter of competition under Article 102 TFEU. In zero-price markets, users do not pay with monetary compensation but rather with their attention and personal data which creates a transactional relationship where data is the new currency. Dominant platforms function as information intermediaries extracting huge value

⁸⁴ European Commission, ‘Competition in Generative AI and Virtual Worlds’ (18 September 2024) Competition Policy Brief Issue 3 <https://competition-policy.ec.europa.eu/document/download/c86d461f-062e-4dde-a662-15228d6ca385_en> accessed 26 November 2025.

⁸⁵ Michal S Gal and Orla Lynskey, ‘Synthetic Data: Legal Implications of the Data-Generation Revolution’ (2023) 109 Iowa Law Review, <<https://ssrn.com/abstract=4414385>> accessed 2 December 2025, 4.

⁸⁶ Ibid 6.

⁸⁷ Ibid 20-21.

⁸⁸ Ibid 4.

from this data to refine algorithms and provide targeted ads⁸⁹. When dominant platforms face little to no competitive pressure, the incentive to over-collect or exploit personal data increases, connecting privacy degradation to the preservation or strengthening of market power directly.

This raises the question of whether excessive data collection can be deemed as antitrust abuse. Authorities are increasingly acknowledging that when a platform is dominant, user consent to data collection may not be truly voluntary. Due to lock-in effects (e.g. if users do not engage, they might lose out on social connections) and a lack of credible alternatives, users are forced to accept non-beneficial terms⁹⁰. In the context of the General Data Protection Regulation (GDPR), the choice is limited. Users typically consent to tracking cookies to access content, not being aware of a choice and fearing they might be blocked otherwise⁹¹. If a dominant company forces its users to surrender more privacy than they would in a competitive market, this conduct can be perceived as exploitative abuse, as established in the German Facebook case, where it was argued that dominance allowed Facebook to impose unfair data processing terms that were in violation of GDPR standards, thereby forming an abuse under antitrust law⁹².

In Facebook's case, the exploitative component was linked to data collection beyond its own social network, including tracking on third-party apps and sites, often without the user's awareness and option to opt out. Due to its market power, users were locked in and had to accept these terms to continue using the service⁹³. In a competitive market, however, such extensive and opaque data collection without providing a corresponding increase in service quality would likely be unsustainable, but Facebook's market power enabled it to impose these conditions, which was deemed unfair and excessive practice. This expansion of the scope of antitrust beyond traditional price and output effects to include privacy degradation marks a significant adaptation of competition policy in the digital era.

⁸⁹ Bundeskartellamt and Autorité de la concurrence (n 25) 14-15 and 34.

⁹⁰ Bundeskartellamt, *Facebook* (n 66), paras 385 and 552.

⁹¹ Ibid para 645 ; see also Bundeskartellamt and Autorité de la concurrence (n 25) 5.

⁹² Ibid para 783-784

⁹³ OECD, *Summary of Discussion on the Roundtable on Quality Considerations in Zero Price Markets* (n 70) 8.

1.4.6. Ecosystem Defenses and Contractual Lock-In as Exclusionary Tactics

Beyond privacy related concerns, another aspect of dominance in digital markets is the structural inability of participants to disengage from a gatekeeper's ecosystem. Often, this lock-in effect provides dominant companies with a powerful narrative to defend themselves, even when their dominance is rooted in exclusionary control over critical infrastructure.

When faced with regulatory action, Big Tech companies like Google and Apple adopt a claim of innocence, according to which they act lawfully, and their market position is merely the result of superior products and services. Furthermore, they argue that users deliberately choose to engage with them⁹⁴. However, this defense clashes with the economic reality of gatekeeping power, in which the structural dependence of business users on the platform is often considered absolute. Because of higher monetization potential of iOS users, Apple's App Store generates approximately twice as much revenue for developers when compared to Google's Play Store, despite having less downloads⁹⁶. Thus, for a developer, it is not a viable business strategy to choose to engage with the App Store; Instead, it is a matter of survival and success within the market. This very structural power, however, puts Big Tech companies in a position to impose exclusionary terms that developers and users cannot reasonably refuse. Control over crucial infrastructure and information grants these companies the market power to engage in exploitative conduct and exclusionary tactics⁹⁷.

1.4.7. Exclusionary Abuse Through Data Exploitation and GDPR

Following the discussions of privacy abuse and contractual lock-in, this section analyzes how excessive data collection can function as both an exploitative and an exclusionary abuse in the context of multi-sided platform markets. Furthermore, it also considers the role of GDPR compliance (or the lack thereof) as an indicator of unfair practices under Article 102 TFEU.

While excessive data extraction is typically evaluated through the lens of consumer exploitation, it also has the potential to harm competitors under Article 102 TFEU as exclusionary abuse. In multi-

⁹⁴ Christopher T Marsden and Ian Brown, 'App Stores, Antitrust and Their Links to Net Neutrality: A Review of the European Policy and Academic Debate Leading to the EU Digital Markets Act' (2023) 12(1) Internet Policy Review 2 <<https://ssrn.com/abstract=4361872>> accessed 23 December 2025, 5.

⁹⁵ US House of Representatives, Committee on the Judiciary, Subcommittee on Antitrust, Commercial and Administrative Law, *Investigation of Competition in Digital Markets: Majority Staff Report and Recommendations* (2020) <<https://www.govinfo.gov/content/pkg/CPRT-117HPRT47832/pdf/CPRT-117HPRT47832.pdf>> accessed 29 December 2025, 27.

⁹⁶ Marsden and Brown (n 94) 5.

⁹⁷ Ibid 5.

sided platform markets, exclusionary and exploitative abuses often overlap as data functions as a non-monetary currency on the consumer side, while influencing simultaneously the quality of services on the business side⁹⁸. By collecting vast amounts of off-platform data, incumbents can trigger the self-reinforcing feedback loops described earlier, which creates significant market entry barriers. The ability to predict user behavior precisely allows dominant platforms to fine-tune their offers and attract more users, creating an advantage that competitors cannot replicate. Effectively, this excludes smaller competitors who struggle to reach a substantial user base necessary to train competitive algorithms or maintain a viable data-driven business model⁹⁹.

The exclusionary effects are most visible in online advertising. Meta and other dominant platforms leverage their access to extensive, high-quality data sets to provide highly personalized targeting that competitors cannot replicate. This creates a gap in competitiveness because rivals do not have access to similar data (or size thereof), causing them to miss out on advertising clients to the incumbents. Therefore, excessive data extraction can serve as a mechanism to starve competitors in revenue, and to entrench their market dominance further¹⁰⁰.

Ultimately, the CJEU ruled that while competition authorities do not effectively replace data protection authorities, antitrust authorities still need to consider data protection provisions when evaluating abuse of dominance. To clarify this dynamic, the CJEU ruled that a dominant company's violation of the GDPR could be perceived as an indicator that its practices were to be deemed unfair under Article 102 TFEU. For instance, it could constitute an abuse of power if a platform forced its users to accept data processing terms that violated their fundamental rights¹⁰¹. Furthermore, to ensure a coherent enforcement framework that respects the distinct but overlapping goals of safeguarding fair competition and protecting fundamental privacy rights, the CJEU also established a duty of cooperation: Accordingly, antitrust authorities need to consult with the relevant data protection supervisory authorities before making a decision¹⁰².

One of the most powerful mechanisms for maintaining this dominance (aside from privacy abuses) is the use of parity clauses which effectively ban competition by contractually requiring suppliers to offer the dominant platform prices and terms that are at least as favorable as those offered to any

⁹⁸ Bundeskartellamt, *Facebook* (n 66), para 888.

⁹⁹ Bundesgerichtshof, *Facebook*, KVR 69/19 (23 June 2020), para 99.

¹⁰⁰ *Ibid* paras 47-48.

¹⁰¹ Case C-252/21 *Meta Platforms Inc. v Bundeskartellamt* ECLI:EU:C:2023:537, paras 47-51.

¹⁰² *Ibid* paras 61-63.

rival¹⁰³. The EC's Amazon/E-Books case demonstrates how this serves as an abuse under Article 102 TFEU¹⁰⁴: By enforcing parity, Amazon foreclosed the market effectively – even if a competing platform charged publishers lower commission fees, publishers were barred contractually from lowering the e-book price on that competing platform. Subsequently, this removed the incentive for users to switch to cheaper alternatives¹⁰⁵. Furthermore, clauses contractually required simultaneous release dates which bound publishers to Amazon's schedule, reducing the incentive for publishers to invest in and support alternative and innovative business models or to differentiate their offers on competing platforms¹⁰⁶, locking them effectively into Amazon's ecosystem¹⁰⁷.

From a competition perspective, this practice is doubly harmful: Not only does it neutralize price competition, but more importantly, parity clauses also restrict multi-homing¹⁰⁸. If a competitor cannot offer better prices or content, users have no incentive to switch away from the incumbent. Furthermore, with no reason to switch, all transactional and behavioral data stays concentrated within the dominant ecosystem. Ultimately, the dominant platform can effectively benefit from the investment of its competitors without having to engage in innovation itself.

1.5. The Regulatory Response

After having identified the structural limitations of traditional competition enforcement in digital markets, the next step is to analyze the legislative tools that were designed to address these constraints, most importantly the Digital Markets Act. This framework represents a decisive shift in competition policy from ex-post enforcement to ex-ante regulation.

1.5.1. The Digital Markets Act: From Ex-Post to Ex-Ante Regulation

In light of the complex challenges posed by applying traditional antitrust frameworks to data-driven business models, various legislative initiatives have emerged to address these concerns more effectively. The Digital Markets Act is the pinnacle of this shift. Applied complementarily to the goals of Article 102 TFEU, the DMA mandates ex-ante obligations that require gatekeepers to engage in fair conduct toward smaller market participants before harm occurs. Instead of focusing solely on the

¹⁰³ Andreangeli (n 6) 276.

¹⁰⁴ Case AT.40153 *E-Book MFNs and Related Matters (Amazon)* (Decision of 4 May 2017), para 22.

¹⁰⁵ Ibid para 104.

¹⁰⁶ Ibid para 75.

¹⁰⁷ Ibid para 65 (2).

¹⁰⁸ Ibid paras 123 and 147.

fairness of competition in individual markets, the DMA seeks to ensure that the digital sector is overall contestable¹⁰⁹.

The introduction of this framework marks a critical shift from traditional antitrust ideologies, which typically involve precise market definition, economic analysis, and investigations on a case-by-case basis. For a sector as rapidly evolving as the digital economy, this is a process often too slow. Thus, to move away from these methodologies, the DMA serves as a framework of predefined obligations (dos and don'ts) that apply to digital platforms meeting certain criteria, labelling them as gatekeepers¹¹⁰.

1.5.2. Designation of Gatekeepers and Key Obligations

Fundamental to the DMA's preventive model is its system for the designation of gatekeepers, who are large digital intermediaries to whom the DMA's ex-ante obligations apply. The status of a gatekeeper is determined by absolute size and structural criteria, often without the requirement of defining a specific relevant market in the conventional sense. To be designated as a gatekeeper in alignment with Article 3 DMA, companies must have significant impact on the internal market, operate a core platform service that acts as an important gateway for business users to reach end users (e.g. operating systems, social networks), and hold an entrenched and durable position in its operations¹¹¹. Under the DMA, authorities do not need to prove consumer harm or market power in every instance. Instead, the regulation introduces a presumption that companies meeting the specific scale thresholds and holding a gateway position have the capacity to distort competition¹¹².

Once designated as a gatekeeper, companies must adhere to strict obligations to prevent the leveraging of their structural competitive advantage. Contrary to traditional competition law, the framework specifically excludes justifications based on economic efficiency¹¹³. Most notably, the DMA mandates the prohibition of self-preferencing under Article 6 (5). Accordingly, this provision bans gatekeepers from ranking their own services more favorably than those of their rivals. Unlike traditional law which requires an effects-based investigation, self-preferencing is an automatic violation

¹⁰⁹ DMA (n 30) recital 7.

¹¹⁰ Ibid recital 6.

¹¹¹ Ibid article 3 (8) lit. a-g.

¹¹² Ibid recital 17.

¹¹³ Ibid recital 23.

under the DMA¹¹⁴. Furthermore, under Article 5 (2 b) DMA gatekeepers are prohibited from combining personal data from their core platform service with data from other services without expressive user consent¹¹⁵, fighting the data feedback loops previously discussed.

These criteria and obligations are, however, not merely theoretical. Ever since its enactment, major tech companies have been designated as gatekeepers, including (but not limited to) Alphabet, Amazon, Apple, Meta and Microsoft¹¹⁶. This early round of designations demonstrates the DMA's immediate impact in capturing the biggest and most influential platforms in the digital economy and triggers their obligation to follow the framework's strict compliance requirements.

One of the most notable compliance efforts by a designated gatekeeper has been Meta's reaction to Article 5 (2b) DMA. To comply, Meta introduced models requiring users to either consent to data tracking or pay a monthly subscription fee for a version that is more privacy friendly. Shortly after, however, the EC issued a preliminary finding and questioned whether this two-option choice truly complied with the DMA, as it did not provide users with an alternative for free that is less personalized but equivalent¹¹⁷. This exchange demonstrates that the DMA's obligations are designed for real-world enforcement and not just theoretical, targeting gatekeeper practices that impact data and privacy rights.

1.5.3. The Challenge of “Ne Bis in Idem”

The overlapping enforcement of the DMA and traditional antitrust law raises crucial questions regarding the concept of “ne bis in idem”, according to which double punishment for the same conduct is prohibited (in alignment with Article 50 of the Charter)¹¹⁸. In EU competition law, this principle traditionally required the same infringer, the same protected legal interest and the same facts¹¹⁹. Since the DMA protects fairness and contestability while antitrust law protects undistorted competition, it is possible on paper for a company to be punished twice for the same conduct¹²⁰.

¹¹⁴ Ibid article 6 (5); see also recital 52.

¹¹⁵ Ibid Article 5 (2 b).

¹¹⁶ European Commission, ‘Gatekeepers’ (Digital Markets Act) <https://digital-markets-act.ec.europa.eu/gatekeepers_en> accessed 20 November 2025.

¹¹⁷ European Commission, ‘Commission Sends Preliminary Findings to Meta over Its ‘Pay or Consent’ Model for Breach of the Digital Markets Act’ (Press Release, 1 July 2024) <https://ec.europa.eu/commission/presscorner/detail/en/ip_24_3582> accessed December 12 2025.

¹¹⁸ *Charter of Fundamental Rights of the European Union [2012] OJ C 326/391*, article 50.

¹¹⁹ Opinion of AG Bobek in Case C-117/20 *bpost SA v Autorité belge de la concurrence* ECLI:EU:C:2021:680, para 45.

¹²⁰ Case C-117/20 *bpost SA v Autorité belge de la concurrence* ECLI:EU:C:2022:202, paras 32-36, 95 and 122.

Ultimately, the CJEU ruled that dual proceedings are allowed (even for the same set of facts) if the two sets of legislation pursue distinct legitimate objectives and that the parallelism of proceedings is strictly required and proportionate¹²¹. Consequently, and in alignment with Article 1 (6) DMA, which specifies that regulation does not replace established legal frameworks for addressing anti-competitive behavior but rather complements them¹²², enforcement under the DMA does not preclude parallel antitrust enforcement under the condition that there will be coordination between the two competent authorities as well and that the overall penalty is not excessive¹²³.

1.6. Conclusion and Outlook

Digital markets have evolved into unique ecosystems where market power is not entrenched through traditional price manipulation, but rather through scale advantages, network effects, and multi-sided platforms that operate as essential access points between different user groups. These structural features create a competitive landscape where incumbents can reinforce dominance through data accumulation, ecosystem lock-in, and control over essential channels for market participation. Such control allows dominant platforms to dictate the terms of access, limit interoperability, and shape competition in ways that are often too difficult to detect as unlawful under traditional antitrust frameworks.

The EU's primary competition law framework, Article 102 TFEU, has attempted to adapt to these realities by acknowledging quality dimensions such as privacy, interoperability, and innovation as competitive metrics, alongside conventional indicators of harm. However, enforcement under traditional antitrust frameworks still faces pacing issues, information asymmetries, and difficulties identifying certain anticompetitive conducts in zero-price markets (e.g. exclusionary and exploitative conduct).

The adoption of the DMA marks a fundamental policy shift towards a pro-active and ex-ante regulation that aims to preserve contestability and fairness before the market tips irreversibly. Gatekeeper designation and accompanying obligations represent an important step in reclaiming control in the digital economy. Still, important concerns remain about the scope, interpretation, and practical efficiency of these methods against established dominant incumbents. Understanding whether

¹²¹ Ibid paras 44 and 48.

¹²² DMA (n 30) Article 1 (6).

¹²³ Ibid para 58.

these tools are sufficient requires looking beyond the EU; A transatlantic comparison provides an opportunity to compare how the US confronts similar challenges in regulating Big Tech companies, considering its different legal philosophy and enforcement strategies.

2. Transatlantic Antitrust Divergence: US v EU Approaches in the Digital Market

2.1. The US Statutory Framework

Before engaging in a direct comparison of landmark rulings, it is important to contextualize the regulatory environment from which US antitrust law emerged. Unlike EU competition law, which is based on a treaty system, US antitrust law operates on three ancient statutes which date back to the industrial era of railroads and oils trusts but remain the primary tools for regulating digital economy. Arguably outdated as it is worth asking if they are still up for the task or if the shift from oil to data has rendered them functionally outdated, the core federal antitrust laws are: The Sherman Act, the Clayton Act and the Federal Trade Commission Act (FTC Act)¹²⁴.

The Sherman Act of 1890, famously described by the Supreme Court as the “Magna Carta of free enterprise”¹²⁵, was the first federal attempt to curb the power of large industrial trusts. Section 2 prohibits monopolization and attempts to monopolize¹²⁶, however, the mere possession of monopoly power is not deemed illegal. Liability only occurs if that power is willfully acquired or maintained through exclusionary conduct rather than by growth or development as a result of a superior product, historic accident or business acumen¹²⁷.

The Clayton Act of 1914 aims to target particular anticompetitive practices that are not specifically prohibited in the Sherman Act¹²⁸. Section 7 prohibits mergers and acquisitions that might effectively lessen competition or are likely to create a monopoly¹²⁹. This tool would primarily be used for Big Tech acquisitions like Meta’s acquisition of WhatsApp and Instagram¹³⁰.

¹²⁴ Federal Trade Commission, ‘The Antitrust Laws’ <<https://www.ftc.gov/advice-guidance/competition-guidance/guide-antitrust-laws/antitrust-laws>> accessed 4 October 2025.

¹²⁵ *United States v Topco Associates, Inc.*, 405 US 596, 610 (1972).

¹²⁶ Sherman Antitrust Act 1890, 15 USC § 2.

¹²⁷ *United States v. Grinnell Corp.*, 384 US 563, 570-571 (1966).

¹²⁸ Federal Trade Commission ‘The Antitrust Laws’ (n 124).

¹²⁹ Clayton Act 1914, 15 USC § 18.

¹³⁰ Congressional Research Service, ‘Federal District Court Rejects the FTC’s Monopolization Case Against Meta Platforms’ LSB11379 (26 November 2025) <https://www.congress.gov/crs_external_products/LSB/HTML/LSB11379.html> accessed 27 December 2025.

The FTC Act of 1914 bans unfair methods of competition¹³¹¹³². Notably, actions violating the Sherman Act also violate the FTC Act, which means that the Federal Trade Commission (FTC) – the antitrust authority exclusively eligible to bring cases under the FTC Act – can bring the activities under the FTC Act that violate the same kinds of practices that violate the Sherman Act¹³³. However, in a policy statement issued by the FTC, it was explicitly clarified that Section 5 would even reach beyond the Sherman Act and the Clayton Act¹³⁴.

2.1.1. The Consumer Welfare Standard and Digital Market Blind Spots

One of the most significant divergences between the US and the EU lies in how these statutes are interpreted. With the ruling in *Reiter v. Sonotone Corp.*, US courts have adhered to the Consumer Welfare Standard (CWS) which focused on price and output effects first and foremost¹³⁵. This standard was, however, also identified as a key weakness in assessing competitive harm in digital markets. The FTC emphasized that the ability to monitor users, incentivize perpetual tracking and collect vast data sets should qualify as harm to quality and privacy, which were factors overlooked under the conventional price-based metrics of the CWS¹³⁶. Consequently, this omission created a blind spot in digital markets involving services by Big Tech companies like Facebook and Google, where no direct price increase is observable. While the EU allows intervention even without price harm, the traditional US frameworks struggle to find liability when services are free to the consumer¹³⁷.

The challenge of applying the CWS to platforms was proven in the Supreme Court’s ruling in the *Ohio v. American Express* case. Here, the court ruled that for transaction platforms, the relevant market needed to include both sides of the platform simultaneously. To demonstrate anticompetitive

¹³¹ Federal Trade Commission Act 1914, 15 USC § 45.

¹³² Federal Trade Commission ‘The Antitrust Laws’ (n 124).

¹³³ Ibid.

¹³⁴ Federal Trade Commission, *Policy Statement Regarding the Scope of Unfair Methods of Competition Under Section 5 of the Federal Trade Commission Act* (November 2022) <<https://www.ftc.gov/legal-library/browse/policy-statement-regarding-scope-unfair-methods-competition-under-section-5-federal-trade-commission>> accessed 27 December 2025, 2.

¹³⁵ *Reiter v Sonotone Corp.*, 442 US 330, 343 (1979).

¹³⁶ Lina M Khan, ‘Remarks of Chair Lina M Khan at the Charles River Associates Conference, Competition & Regulation in Disrupted Times’ (31 March 2022) <<https://www.ftc.gov/news-events/news/speeches/remarks-chair-lina-m-khan-charles-river-associates-conference-competition-regulation-disrupted-times>> accessed 3 December 2025, 2.

¹³⁷ Makridis and Thayer (n 5).

behavior, a plaintiff must prove net harm to the entire ecosystem, harm to only one side is insufficient¹³⁸. This interpretation imposes a high burden of proof. For instance, even if Google were shown to have increased prices and harmed advertisers on one side of its platform, US courts could still reject a claim if Google provided free benefits to its consumer on the other side. This is in direct contradiction with the EU approach, which allows a finding of antitrust violation even when harm is limited to one market side.

2.1.2. Duty to Deal and Killer Acquisitions

Under the EU's DMA, dominant companies can be required to share interoperability or data with competitors¹³⁹¹⁴⁰. In the US, however, the Supreme Court explicitly ruled in the *Verizon v Trinko* case that mandating a dominant company to share its infrastructure with competitors could decrease the incentives for both incumbents and competitors to invest in economically beneficial infrastructure. Subsequently, this interpretation favors the freedom of the monopolist over the fairness of the competition¹⁴¹ and stands in direct contrast to the EU's gatekeeping approach.

The *Trinko* precedent continued to serve as the primary shield for US Big Tech companies; For instance, when the FTC sued Meta over policies that blocked interoperability with rival apps that it perceived as competitive threats¹⁴², the court dismissed the refusal-to-deal claim; Citing the *Trinko* case, it ruled that Meta had no general obligation to provide access to its platform, even if its incentive was to force out a competitor¹⁴³. By comparison, under EU frameworks, similar conduct would be perceived as a form of gatekeeping capable of distorting competition.

In the digital economy, Big Tech companies regularly deny competitors access to essential inputs, such as Apple refusing to make its iMessage function interoperable with Android¹⁴⁴. Under EU law, again, such behavior is viewed as gatekeeping that distorts competition. Contrarily, under the *Trinko* case, US courts perceive this refusal not as abuse but as a property right, reasoning that if dominant firms need to share their innovations, they will never invest in establishing it in the first place.

¹³⁸ *Ohio v American Express Co.*, 138 S Ct 2274, 2287 (2018).

¹³⁹ DMA (n 30) recitals 59-61 and 64.

¹⁴⁰ *Ibid* articles 5 and 6.

¹⁴¹ *Verizon Communications Inc. v Law Offices of Curtis V Trinko, LLP*, 540 US 398, 407-408 (2004).

¹⁴² *Federal Trade Commission v Facebook, Inc.*, 560 F Supp 3d 1, 22 (D.D.C. 2021), 1.

¹⁴³ *Ibid* 3.

¹⁴⁴ *Epic Games, Inc. v Apple Inc*, No 4:20-cv-05640-YGR-TSH (ND Cal, 7 April 2020) (Proposed Findings of Fact and Conclusions of Law of Epic Games), 21.

Furthermore, the US system has also struggled to catch killer acquisitions which goes beyond theoretical problems and solidifies itself as a structural failure of the reporting thresholds. In a 2021 Staff Report, the FTC revealed that between 2010 and 2019, the five largest Big Tech companies (Alphabet, Amazon, Apple, Meta, Microsoft) collectively executed hundreds of acquisitions that had gone entirely unreported to antitrust authorities. This is because the transactions were below the Hart-Scott-Rodino filing threshold¹⁴⁵, but they still allowed dominant incumbents to acquire talent and eliminate competitors before they grew big enough to trigger a review.

2.1.3. The Evolution of Foreclosure in the Digital Era

The strength of the CWS lies within its clarity and focus on tangible results (price and output). However, this also has historically been its greatest weakness when applied to digital markets. In sectors driven by AI and data, products and services often appear as free (search engines, social media, AI chatbots) which creates the illusion of consumer benefit while obstructing simultaneously a deeper look into anticompetitive practices. As laid out in this thesis, data functions as a core resource that establishes market power, allowing dominant firms to personalize services, refine algorithms, and foster network effects that create massive market entry barriers. Since the collection and control of data are more difficult to assess in traditional price metrics, such practices often avoid scrutiny under existing US enforcement frameworks¹⁴⁶.

A historic example of foreclosure without price harm can be found in the Microsoft case nearly three decades ago. By bundling its own browser, Internet Explorer, into its operating system, Microsoft effectively restricted computer manufacturers from installing rival browsers and foreclosed competitors' market access¹⁴⁷. This case illustrates that foreclosure is a legitimate competition harm even when the product in question is provided free of charge, as it can still restrict consumer choice and stifle innovation. The same dynamics happen on a broader and more complex scale in today's AI driven markets. However, the foreclosure to competition is not restricted to the implementation of software code anymore.

¹⁴⁵ Federal Trade Commission, 'FTC Staff Presents Report on Nearly a Decade of Unreported Acquisitions by the Biggest Technology Companies' (Press Release, 15 September 2021) <<https://www.ftc.gov/news-events/news/press-releases/2021/09/ftc-staff-presents-report-nearly-decade-unreported-acquisitions-biggest-technology-companies>> accessed 2 December 2025.

¹⁴⁶ Lina M Khan, 'Competition & Regulation in Disrupted Times' (n 136) 2.

¹⁴⁷ *United States v. Microsoft Corp.*, 253 F 3d 34, 60 (D.C. Cir. 2001).

Today's version of bundling is the systematic integration of AI into ecosystems under the control of a handful of dominant companies, combined with exclusive access to substantial data sets and computational resources necessary to train and deploy advanced algorithms. In contrast to browser markets, the key inputs for AI (massive computational resources and historical user data) cannot be replicated as easily and quickly or at the same scale. This concern becomes more impactful by the pace at which emerging firms are acquired by Big Tech companies before they can become threats to competitors¹⁴⁸.

Almost three decades after the Microsoft case, the importance and value of data is still overlooked regularly and deemed as free under the CWS. This interpretation results in a laissez-faire approach in which authorities have taken a highly restrained role, allowing companies to operate with little regulatory intervention¹⁴⁹. As long as there is no clear, provable and immediate price harm, this only tightens their control over personal data and markets further. However, by the time competitive harm is measurable under traditional antitrust frameworks, the tipping point has already occurred, and the damage is often irreversible. In contrast, the EU's DMA framework allows regulators to intervene timely against gatekeepers and foreclosing practices early, aligning enforcement with the realities of data-driven digital markets.

2.1.4. The Quality-Revenue Conflict in Ad-Funded Platforms

The inherent inconsistencies between the CWS and data-driven business models are not just theoretical issues pointed out by regulators. Instead, it was also explicitly recognized by Big Tech itself; As Google's executives would argue in a seminal paper in 1998, advertising-funded business models would inevitably establish a misalignment of incentives, emphasizing that the objectives of the advertising business models would not consistently correspond to providing quality services to users – instead, advertising funded services would be inherently biased towards advertisers¹⁵⁰. A search engine that solely focuses on revenue would, over time, degrade its products and services through excessive ads or preferential treatment of certain results, while still increasing advertising income. This, however, in the context of the CWS is considered harmless as long as the service is offered for free in monetary terms. However, if data were recognized and treated as currency, this

¹⁴⁸ Federal Trade Commission, 'Generative AI Raises Competition Concerns' (June 2023) <<https://www.ftc.gov/policy/advocacy-research/tech-at-ftc/2023/06/generative-ai-raises-competition-concerns>> accessed 4 December 2025.

¹⁴⁹ Makridis and Thayer (n 5) 7.

¹⁵⁰ Sergey Brin and Lawrence Page, *The Anatomy of a Large-Scale Hypertextual Web Search Engine* (Computer Science Department, Stanford University 1998) <<http://infolab.stanford.edu/~backrub/google.html>> accessed 28 December 2025, 18-19.

degradation in quality would be evaluated as a hidden price hike since consumers would be paying with more data but receiving a worse product in return. Without acknowledging this exchange, dominant incumbents can freely exploit their leverage in a number of anticompetitive ways, for instance, by demanding more valuable data from users or imposing restrictive contractual clauses on rivals¹⁵¹.

This quality-revenue conflict does not only impact the consumer side, but also extends to the supply side of the market. Small competitors and startups are gradually dependent on dominant platforms to gain access to customers. To survive in the market, they need to adhere to extractive terms that favor the platform's own interests (e.g. the Amazon/E-Book case). This dependency slows down innovation, as new market entrants in data-driven environments face structural disadvantages against dominant platforms¹⁵², who can leverage their comprehensive view of consumer behavior and market dynamics to identify new market opportunities early, block rival growth and further cement their dominance¹⁵³.

2.1.5. Data as Currency

Courts and regulators need to align on a fundamental reality of digital economy: personal data functions as currency. Recognizing this would provide a concrete basis for assessing harm in the digital economy, closing the gap between consumer protection and antitrust. If data were to be fully acknowledged as a form of payment, then the exchange between users and platforms becomes a market transaction, and subsequently, subject to antitrust scrutiny. Ultimately, this perspective would help the courts to evaluate whether consumers are getting fair value for their data or if they are being exploited by incumbents.

In its antitrust lawsuits against Google, the Department of Justice (DOJ) specifically alleged that Google's practices harmed users not by raising prices, but by degrading the quality of search - including adverse impacts on privacy, data protection and the utilization of user data¹⁵⁴. This marked a significant shift: in zero-price markets, a reduction in privacy was now treated as the functional

¹⁵¹ Lina M Khan, 'Competition & Regulation in Disrupted Times' (n 136) 2-3.

¹⁵² US House of Representatives (n 95) 121 and 343.

¹⁵³ Stacy F Mitchell, 'Testimony before the United States House of Representatives, Committee on the Judiciary, Subcommittee on Antitrust, Commercial and Administrative Law' (16 July 2019) <<https://www.congress.gov/116/meeting/house/109793/witnesses/HHRG-116-JU05-Wstate-MitchellS-20190716.pdf>> accessed 28 December 2025, 5.

¹⁵⁴ *United States v Google LLC*, No 1:20-cv-03010 (D.D.C., 20 October 2020) (Complaint), para 167.

equivalent of a price increase. What initially started as an academic argument had become a central legal theory advanced by the DOJ.

While this concept gradually gains more traction in the US only now with US enforcement agencies pushing to redefine harm in the context of zero-price markets, it has already been legislatively codified in the EU. The Digital Content Directive (DCD) specifically acknowledges that personal data constitutes as form of payment for digital services¹⁵⁵. In Germany, § 19a GWB and § 18a GWB go further by specifically recognizing data as a crucial factor for assessing market power and competitive significance in the digital economy. Furthermore, this allows the German FCO to intervene against abuses of paramount significance even in zero-price markets¹⁵⁶.

2.1.6. Steering Competition Through Structural Manipulation

While the DOJ began to make the case for acknowledging data as a form of currency, this perspective has yet to be fully embedded across entirety of US antitrust enforcement and judicial interpretation. In the absence of a consistently applied approach, incumbents are left in a position to steer competition in ways that are hardly visible to consumers but highly harmful to rivals, sometimes fatally so. For instance, Google abuses its advantageous dual role to demote rivals in its rankings. As the EC has established in its Google Shopping decision, Google's algorithm systematically pushed the competing comparison site Foundem to page four of the search results, while placing Google's own shopping service at the top. Since the majority of users does not go beyond the first page of the search results, this behavior effectively foreclosed Foundem from the market, irrespective of its quality¹⁵⁷. A framework that entirely focuses on price metrics could easily miss out on this degradation of quality of search results (by hiding the best option) by favoring Google's own financial interests.

Similarly, Google was accused of introducing AMP, a framework for developing mobile web pages¹⁵⁸, not only to speed up the web, but to pressure news publishers into adapting to Google's infrastructure. Accordingly, news publishers were forced to adopt AMP because non-AMP pages were demoted in search results. This cut off publishers effectively who did not want to play by

¹⁵⁵ Directive (EU) 2019/770 of the European Parliament and of the Council of 20 May 2019 on certain aspects concerning contracts for the supply of digital content and digital services [2019] OJ L 136/1, recital 24.

¹⁵⁶ Ninth Amendment to the GWB (n 65) 19a (1) and 18 (2a).

¹⁵⁷ *Google Search (Shopping)*, (n 16) paras 341-344.

¹⁵⁸ *State of Texas et al v Google LLC*, Case No 4:20-cv-00957 (E.D. Tex, 16 December 2020) (Complaint), para 206.

Google's rules, demonstrating how incumbents can use standards to their own benefit and maintain their dominance¹⁵⁹. In the first example, Google would control visibility, and in the second example, it set technical standards. While traditional antitrust frameworks primarily look for price hikes, Big Tech companies can sneakily implement structural manipulation and foster their dominance further.

2.1.7. Vertical Mergers and Misclassifications in Big Tech

Traditionally, mergers in the tech market have been treated as vertical mergers (arrangements between companies that do not directly compete with each other, for instance a platform acquiring a complementary tool)¹⁶⁰. In practice and in US antitrust doctrine, they are viewed as presumptively pro-competitive due to the efficiencies they may create (e.g. eliminating double marginalization) without increasing market concentration between competitors¹⁶¹.

However, in the context of Big Tech, it is critical to determine whether this represents an instance of antitrust category misclassification. In digital markets, the difference between horizontal and vertical is often blurred – when an incumbent buys a start-up, typically, the dominant platform wants to engage in moat building and not in increasing efficiency. By acquiring a company that has overlapping user attention or data (even if the service or product is different), the acquiring platforms can eliminate a potential nascent competitor before they can grow enough to become a threat to the incumbent¹⁶².

This lenient approach has given Big Tech the ability to acquire hundreds of firms. For instance, Meta's acquisition of Instagram and WhatsApp were partially cleared because regulators perceived both firms as complementary to Facebook's ecosystem instead of direct horizontal danger. It serves as a primary example of regulatory oversight. Whereas the deals were initially perceived as non-threatening, internal communications subsequently confirmed that Meta viewed Instagram and

¹⁵⁹ Ibid paras 212-215.

¹⁶⁰ Makridis and Thayer (n 5), 82.

¹⁶¹ US Department of Justice and Federal Trade Commission, *Vertical Merger Guidelines* (June 2020) <https://www.ftc.gov/system/files/documents/reports/vertical-merger-guidelines-0/vertical_merger_guidelines_6-30-20.pdf> accessed 28 December 2025, 2.

¹⁶² Makridis and Thayer (n 5), 90.

WhatsApp as direct and serious threats to its market dominance, requiring defensive action to neutralize the rivalry¹⁶³ and leading to access to new advertising channels and expanded data sets. Furthermore, and most importantly, this helped Meta to strengthen its data advantage and reinforce its market position. When data-rich platforms are acquired, it not only leads to a bigger user base, but it also leads to magnified data sets. This improves the platform's ability to optimize algorithms, targeted advertising and network effects, which can make it harder for other companies to compete.

Recognizing these dynamics, the FTC incorporated the Instagram and WhatsApp acquisitions into its renewed antitrust complaint against Meta. In its complaint, the FTC alleged that Meta did not acquire WhatsApp and Instagram for complementary features but instead to maintain its dominance in the social media market¹⁶⁴. Following the recognition of these enforcement gaps, the FTC and the DOJ would withdraw the 2020 guidelines on vertical mergers¹⁶⁵ and subsequently replace them with new guidelines better equipped to reflect the realities of competitive markets in digital markets¹⁶⁶.

2.2. Historic Foundations and Modern Shortcomings of the Consumer Welfare Standard

As established in the previous chapter, US antitrust policy is anchored in the CWS. However, it is crucial to understand the specific economic rationale that cemented its dominance, what kind of legal environment it was designed to fix, and why that logic struggled in the digital era. Prior to the Chicago School revolution, antitrust law's primary goal was the preservation of competitive market structures. Mergers were blocked because the courts viewed the very concept of market concentration itself as a danger, often with the incentive to safeguarding small independent retailers from big chains and regardless of economic impact¹⁶⁷. The period was defined by such inconsistencies that even members of the Supreme Court argued that legal enforcement had become arbitrary (e.g., Justice Stewart Potter stating in his dissent in the 1966 *United States v. Von's Grocery Co.* case that

¹⁶³ US House of Representatives (n 95) 119 and 125.

¹⁶⁴ *Federal Trade Commission v Facebook, Inc.*, Case No 1:20-cv-03590 (D.D.C., 13 January 2021) (Complaint), para 232.

¹⁶⁵ Federal Trade Commission, 'Federal Trade Commission Withdraws Vertical Merger Guidelines and Commentary' (Press Release, 15 September 2021) <<https://www.ftc.gov/news-events/news/press-releases/2021/09/federal-trade-commission-withdraws-vertical-merger-guidelines-commentary>> accessed 29 December 2025.

¹⁶⁶ Federal Trade Commission, 'Federal Trade Commission and Justice Department Release 2023 Merger Guidelines' (Press Release, 18 December 2023) <<https://www.ftc.gov/news-events/news/press-releases/2023/12/federal-trade-commission-justice-department-release-2023-merger-guidelines>> accessed 29 December 2025.

¹⁶⁷ Lina Khan, 'Amazon's Antitrust Paradox' (n 4) 718-719.

the only consistency in the court's ruling was "The sole consistency that I can find is that, in litigation under §7, the Government always wins."¹⁶⁸ .

Seeking to move beyond the unpredictable antitrust rulings of the 1960s, the Chicago School introduced the CWS to ground the field in objective economic analysis and to effectively find clarity in this backdrop of unpredictability. In his highly influential work, *The Antitrust Paradox*, Robert Bork made the argument that antitrust required a coherent economic theory, emphasizing that the only legitimate objective of antitrust law should be the maximization of consumer welfare, particularly characterized as allocative efficiency (low prices and high output)¹⁶⁹.

The divergence commenced when this industrial-era metric, that had been initially created to solve the inconsistencies of the 1960s, was used to address modern problems of the digital economy. As Lina Khan notes, the CWS equates competition with short-term price effects, making it an inadequate tool to capture how market power is actually established and maintained in today's digital economy¹⁷⁰.

The mismatch becomes most evident whenever digital platforms operate on a zero-price model on the consumer side, which has become quite common with search engines, video platforms and social media platforms. When applying the no-cost model to a price-centric framework, there will be a "no harm"-verdict by default and this dependence on price theory was the reason why courts have overlooked potentially massive welfare harms for a long time, just because those harms were not of monetary value¹⁷¹.

2.3. The Philosophical Divergence: Market Structure vs Consumer Welfare

After examining the origins and limitations of the CWS in the US, it is important to place this framework within the broader context of transatlantic policy. The philosophical differences between US and EU enforcement – specifically in how they balance strict intervention against economic freedom – shape their respective enforcement approaches, particularly towards Big Tech.

¹⁶⁸ *United States v Von's Grocery Co*, 384 US 270, 301 (1966).

¹⁶⁹ Lina Khan, 'Amazon's Antitrust Paradox' (n 4) 720.

¹⁷⁰ *Ibid* 716.

¹⁷¹ John M Newman, 'Antitrust in Zero-Price Markets: Foundations' (2015) 164 *University of Pennsylvania Law Review* 149 <<https://ssrn.com/abstract=2474874>> accessed 4 November 2025, 197.

Expanding the scope of competition law establishes significant tension between enforcement strictness and economic freedom. This dynamic is particularly critical in digital markets, where innovation cycles are quick, which increases the risk that overly rigid regulation might stifle innovation. Both the EU and the US have engaged in different enforcement strategies, the divergence between the approaches deriving from a philosophical divide that shapes how they regulate digital markets and, more importantly, Big Tech companies.

The US model is anchored in the CWS, primarily focusing on efficiency. Thus, it relies on a flexible case-by-case, ex-post analysis and tends to under-enforce instead of stifling innovation. Contrarily, European competition law is anchored in the goal of maintaining a single, fair and contestable market, with a strong emphasis on market structure and fairness. While the US model asks whether potentially anticompetitive conduct affects prices, the EU model investigates whether it distorts the competitive playing field. Anchored in the DMA, which imposes upfront ex-ante obligations upon designated gatekeepers, the EU moves away from purely reactive enforcement.

Furthermore, this philosophical divergence is reflected as well in each system's tolerance for legal error. The American antitrust framework prioritizes the avoidance of type I errors (false positives) - punishing companies for practices that are actually pro-competitive. This is evident in the Supreme Court's ruling in the *Trinko* case where it emphasized that just possessing monopoly power would not qualify as unlawful conduct, arguing that the (temporary) capability to charge monopoly prices would incentivize firms to take risks and innovate¹⁷². By contrast, by imposing ex-ante obligations on designated gatekeepers, the EU engages in a more hands-on approach. As established by the CJEU in the *Michelin I* case (1983), EU law recognizes that dominant companies have a special responsibility not to impair genuine competition¹⁷³. Critics of the EU approach argue, however, that requiring dominant companies to share data or infrastructure with competitors risks punishing companies for achieving success – this could potentially discourage the very investment necessary to establish those facilities¹⁷⁴.

¹⁷² *Trinko* (n 141) 407.

¹⁷³ DMA (n 30) recital 34; see also *Michelin* (n 52) para 57.

¹⁷⁴ James C Cooper, Joshua D Wright and John M Yun, 'Testimony on the State of Competition in the Digital Marketplace' before the US House of Representatives, Committee on the Judiciary, Subcommittee on Antitrust, Commercial and Administrative Law' (24 April 2020) George Mason Law & Economics Research Paper No 20-13 <<https://ssrn.com/abstract=3584629>> accessed 16 October 2025, 9.

2.4. Self-Preferencing and the “Free” Market Defense

The divergence between EU and US enforcement becomes particularly pronounced in cases of self-preferencing. Digital platforms act often as dual-role intermediaries (e.g. Google Shopping, or Amazon selling its “Amazon Basics” products on its own marketplace). This can lead to an inherent conflict of interest; if a platform like Amazon uses sales data from third-party merchants on its platform to launch its own competing products and ranks them higher in the search results, it may constitute an unfair method of competition¹⁷⁵.

However, under Section 2 of the Sherman Act, simply harming competitors does not necessarily constitute as a violation of antitrust laws; even if the practices of a platform drive a competitor out of business, this can be perceived as the consequence of legitimate vigorous competition. For a lawsuit to succeed, it must be proven that the conduct not only harmed a competitor but also hurt the consumers¹⁷⁶. Thus, unlawful practices such as self-preferencing can only then be deemed anticompetitive if they lack a pro-competitive justification and their primary objective is to distort the competitive process.

When the FTC investigated Google’s search practices, they investigated whether the platform manipulated its search algorithms to its own benefits (e.g. demoting vertical rivals and favoring its own services) and concluded the investigation unanimously, accepting Google’s pro-competitive justifications¹⁷⁷. By contrast, the EC found that similar conduct in Google Shopping constituted an abuse of dominance under EU law¹⁷⁸.

The US’ hands-off approach is rooted in legal and economic arguments dating back to a report commissioned by Google in 2012¹⁷⁹ which provided the blueprint for the two-sided market defense (“The Bork-Sidak report”). This analysis argued that because advertisers and users are intercon-

¹⁷⁵ US House of Representatives (n 95) 16.

¹⁷⁶ *Spectrum Sports, Inc. v McQuillan*, 506 U.S. 447, 458 (1993).

¹⁷⁷ Federal Trade Commission, *Statement of the Federal Trade Commission Regarding Google’s Search Practices, In the Matter of Google Inc.*, FTC File No 111-0163 (3 January 2013) <<https://www.ftc.gov/legal-library/browse/cases-proceedings/public-statements/statement-federal-trade-commission-regarding-googles-search-practices-matter-google-inc>> accessed 11 December 2025, 3.

¹⁷⁸ *Google Search (Shopping)* (n 16) para 649.

¹⁷⁹ Robert H Bork and J Gregory Sidak, ‘What Does the Chicago School Teach about Internet Search and the Antitrust Treatment of Google?’ (2012) 8(4) *Journal of Competition Law & Economics* 663 <<https://heinonline-org.uaccess.univie.ac.at/HOL/SelectPage?handle=hein.journals/jrcolaec8&collection=journals&page=663&lname=>> accessed 17 November 2025, 663 n †.

nected, Google would have no motivation to degrade search quality, even if it favored its own products, since inferior results would harm both sides of the market¹⁸⁰. Furthermore, the report argued that the platform would lack the coercive power of a traditional monopoly as users could simply switch to a competitor at zero monetary cost if they wanted to¹⁸¹.

As established, this reasoning was reinforced by the Supreme Court’s ruling in the *Ohio v. American Express* case (2018), which held that harm must be shown on both sides of a transaction platform. In zero-price markets, this dual sided harm requirement creates a fundamental obstacle: the absence of a monetary price makes it more difficult to demonstrate net consumer harm that would justify a violation.

2.4.1. Infrastructure Control and Structural Lock-In in Digital Markets

While the Bork-Sidak report argues that consumers can freely switch to a different search engine (e.g. Yahoo, Bing) and voluntarily choose Google for its quality, the reality behind this “voluntary” choice is different; Google entered substantial exclusionary agreements with Apple and ensured that competition would not just be one click away, if the agreements made sure that users never saw the alternative search engines¹⁸². Thus, Google made sure that irrespective of its search engine’s quality it maintained its monopoly not through superior product design (alone), but rather through massive exclusionary payments. In the *United States v. Google* trial, it was revealed that Google paid billions to device manufacturers (primarily Apple) to remain the default search engine¹⁸³. Subsequently, this shows the weaknesses of the report’s argument that consumers would pick Google for its superior design. Because if that were true, Google would not need to pay billions to maintain its default slot, effectively foreclosing the market and starving potential competitors of the scale required to compete.

Furthermore, the two-sided market defense falls flat when a single entity is in control of the entire infrastructure of the digital advertising market it operates within, establishing a fundamental conflict of interest. The DOJ alleged that Google corrupted legitimate competition by systematically seizing control of the tools used by publishers, advertisers, and the exchange itself¹⁸⁴. The gravity

¹⁸⁰ Ibid 668.

¹⁸¹ Ibid 697-698.

¹⁸² ‘Google’s Payments to Apple’ (n 59).

¹⁸³ *United States v Google LLC* (Complaint) (n 154), para 4.

¹⁸⁴ *United States v Google LLC*, No 1:23-cv-00108 (E.D. Va, 24 January 2023) (Complaint), para 4.

of this is best explained by Google's own digital advertising executives who compared the situation to Goldman Sachs owning the New York Stock Exchange¹⁸⁵. This monopoly was cemented through the acquisition of Double Click which enabled Google to gain control over the logic of how ads are served¹⁸⁶, allowing it to play both sides against the middle¹⁸⁷. Google controlled the entire stack and could manipulate bids through hidden schemes, forcing advertisers to pay higher prices via a black box system¹⁸⁸, taxing competitors through fees in its Open Bidding program¹⁸⁹. Consequently, this allowed Google to charge monopoly rents without competing on the merits.

The Bork-Sidak report argues that Google's motives were aligned with advertisers because it has interests in keeping a maintaining a healthy ecosystem. However, based on the allegations of the DOJ, owning the exchange gave Google the incentive to favor its own revenue-generating tools and adjust auctions mechanics to maximize its own profit margins instead of ensuring market efficiency. Furthermore, the argument that competition would just be one click away collapses when the infrastructure is dominated by the monopoly. Consumers switching to competing search engines would not escape Google's influence, as Google still controls the majority of the publisher ad servers and mechanisms used to display ads on the open web¹⁹⁰. Ultimately, by locking publishers into its ecosystem through restricted access to its massive advertiser demand, Google maintains an excessive revenue. Also, because publishers need to use Google's ad server to reach Google Ads buyers, publishers are forced into a single-home dependency, preventing competitors from gaining the scale required to compete¹⁹¹.

This structural lock in goes beyond the digital advertising market and also affects the mobile operating systems where Google and Apple account for two thirds of all mobile operating system usage in the US¹⁹² which gives them significant control over the ecosystem of app-stores¹⁹³. Due to the dominance of Google and Apple, developers are forced to accept dictated terms just to survive (as alleged in the DOJ's complaint against Apple in 2024)¹⁹⁴, making contractual compliance a matter of life and death for their businesses.

¹⁸⁵ Ibid 6.

¹⁸⁶ Ibid 16.

¹⁸⁷ Ibid 15.

¹⁸⁸ Ibid 127.

¹⁸⁹ Ibid 293.

¹⁹⁰ Ibid 155 and 296.

¹⁹¹ Ibid 273.

¹⁹² *United States v Apple Inc*, No 2:24-cv-04055 (D.N.J., 21 March 2024), (Complaint), para 155.

¹⁹³ Makridis and Thayer (n 5) 110.

¹⁹⁴ *United States v Apple Inc*. (Complaint) (n 192) para 41.

This market dominance is cemented by practices like exclusivity clauses and loyalty obligations, which restrict developers' options to distribute apps on potentially more beneficial alternative platforms. The risk of being restricted access to the significant Apple user base deters developers from collaborating with other app stores. Thus, even if compelled to alter certain practices, Apple can integrate new regulations or restrictions to strengthen its monopoly and adversely manipulate competition through other means. For users, switching to a competitor is not a matter of a click but rather of replacing hardware and abandoning an entire ecosystem of apps and purchases¹⁹⁵.

2.5. “Free Services” vs “Data as Currency”

The final and perhaps deepest divergence lies in how each jurisdiction processes data as cost. Regulators on both sides of the Atlantic now agree that consumers exchange data for supposedly free online services; the core difference lies in how their respective legal frameworks address this economic reality.

As early as 2009, the EU acknowledged this reality when the EC famously labeled personal data as “the new oil of the internet and the new currency of the digital world.”¹⁹⁶, recognizing that users were paying for “free” services with their exposure to ads and their personal data. Ultimately, the EU began to treat privacy as a metric of competition. For example, the EC addressed the data concentration concerns in the Facebook/WhatsApp merger¹⁹⁷ and in the Microsoft/LinkedIn merger¹⁹⁸ recognizing the data's eligibility of entrenching market power. Ultimately, this would pave the way for the German FCO to rule that excessive data collection was an abuse of market power¹⁹⁹.

By contrast, US antitrust enforcement was largely dormant during this critical period. For instance, in 2013, the FTC concluded its investigation into Google unanimously due to the alleged absence of anticompetitive behavior and, most importantly, without addressing any data harms²⁰⁰. Also, the

¹⁹⁵ Ibid paras 126-128 and 134.

¹⁹⁶ Meglena Kuneva, ‘Keynote Speech – Roundtable on Online Data Collection, Targeting and Profiling’ (Speech, European Commission, Brussels, 31 March 2009) <https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_09_156> accessed 30 December 2025.

¹⁹⁷ *Facebook/WhatsApp* (n 79) para 130.

¹⁹⁸ Case M.8124 *Microsoft/LinkedIn* (Decision of 6 December 2016), para 176.

¹⁹⁹ Bundeskartellamt, *Facebook* (n 66), paras 523, 529, 677 and 885.

²⁰⁰ Federal Trade Commission, *Statement of the Federal Trade Commission Regarding Google's Search Practices* (n 177) 3.

FTC initially viewed the WhatsApp/Facebook merger first and foremost through a consumer (privacy) protection perspective, urging WhatsApp to honor its privacy promises to its users without addressing any antitrust law concerns or challenging the structure of the transaction²⁰¹. However, this hands-off stance would shift dramatically in 2020, when the FTC went beyond its earlier focus on consumer privacy protection, filing landmark complaints against Meta²⁰² and Google²⁰³, and alleging a direct link between the companies' respective monopoly powers and the degradation of user privacy.

This shift in US antitrust enforcement marks important progress but it remains ad-hoc and reactive. In contrast to the EU's codified approach, embodied in the DMA, the US lacks an equivalent statutory framework designed specifically to impose clear, ex-ante obligations on dominant platforms. Therefore, emerging recognition of privacy degradation and data exploitation as competitive harms has yet to be reinforced by systemic, preventive tools in the US. This disparity in regulatory capacity highlights a broader transatlantic divergence – not only in legal philosophy, but in the institutional mechanisms available to address entrenched market power as well.

2.6. The US' DMA Act

Despite this title, the US does not have a statutory equivalent to the EU's DMA. While the EU has implemented an ex-ante regulatory framework, the US continues to rely on an ex-post judicial system grounded in the Sherman Act. The closest legislative equivalent to the DMA is the American Innovation and Choice Online Act which was introduced in the 117th Congress²⁰⁴ but failed to secure enactment. Subsequently, whereas the DMA aims to focus on contestability and fairness²⁰⁵, US antitrust law remains largely tethered to the CWS which requires federal agencies to prove specific exclusionary conduct and market effects on a case-by-case basis²⁰⁶.

AICOA constitutes the most significant congressional attempt to align US antitrust law with the regulatory frameworks emerging in the EU. AICOA proposed the creation of a covered platform

²⁰¹ Federal Trade Commission, 'Letter from Jessica L Rich (Director, Bureau of Consumer Protection) to Erin Egan (Chief Privacy Officer, Facebook)' (27 April 2017) <<https://www.ftc.gov/legal-library/browse/cases-proceedings/staff-letters/letter-jessica-l-rich-director-federal-trade-commission-bureau-consumer-protection-erin-egan-chief>> accessed 29 December 2025.

²⁰² *Federal Trade Commission v Facebook* (Complaint) (n 164) para 162.

²⁰³ *United States v Google* (Complaint) (n 154) para 178.

²⁰⁴ US Department of Justice, *Views on S. 2992 and H.R. 3816* (Office of Legislative Affairs, 28 March 2022) 1.

²⁰⁵ DMA (n 30) Article 1 (1).

²⁰⁶ Sherman Act (n 126) § 2.

designation that would resemble the DMA's quantitative thresholds. Accordingly, a platform would qualify if a platform had at least fifty million US-based monthly active users or one-hundred thousand users, combined with net annual sales or market capitalization exceeding \$550 billion²⁰⁷. Effectively and likely, this structure would have captured the same companies that were designated as gatekeepers by the DMA (e.g. Alphabet, Amazon, Apple, Meta).

However, AICOA did not pass due to disagreements over its enforcement standards. Contrary to the DMA's unconditional prohibitions on gatekeeper practices, the proposed US bill's primary conduct restriction would have made self-preferencing unlawful only if it resulted in material harm to competition²⁰⁸. Failing to offer the speed and certainty of the DMA, this clause would effectively transfer the burdens of traditional antitrust litigation into the proposed framework. The US Chamber of Commerce argued that this approach would ruin the efforts of establishing a tech ecosystem that made the "United States the envy of the world"²⁰⁹ by granting antitrust authorities the authority to micro-manage the American economy, likely leading to unforeseen consequences for consumer products²¹⁰. Conversely, the DOJ were in support of AICOA as it would have clarified antitrust law provisions that currently necessitate cumbersome case-by-case analyses²¹¹.

Another bill introduced in the 119th Congress session was the Open App Markets Act (OAMA), which sought to promote openness in app stores by setting rules for the operation of app stores run by covered companies. For instance, it proposed mandating that covered companies allow developers to use alternative in-app payment systems²¹² similar to Article 5 (7) of the DMA²¹³. While not yet enacted, the US Chamber of Commerce had criticized one of its previous iterations, according to which antitrust law should not predetermine market behavior and outcomes but rather promote competing on the merits²¹⁴. Thus, the lack of enactment and persistent political resistance highlights the fundamental reluctance of the US to predetermine market behavior or impose proactive obligations on dominant platforms.

²⁰⁷ American Innovation and Choice Online Act, S 2992, 117th Congress, s 2(a)(5)(B) (2022).

²⁰⁸ Ibid s 3(a)(1).

²⁰⁹ US Chamber of Commerce, 'Letter on S. 2992, "American Innovation and Choice Online Act"' (31 May 2022) <<http://uschamber.com/antitrust/u-s-chamber-key-vote-letter-on-s-2992-american-innovation-and-choice-online-act>> accessed 3 January 2026.

²¹⁰ Ibid.

²¹¹ US Department of Justice, *Views on S. 2992* (n 204) 2.

²¹² Open App Markets Act, S 2153, 119th Cong., s 3(a) (2025).

²¹³ DMA (n 30) article 5(7).

²¹⁴ US Chamber of Commerce, 'Letter on S 2710, "Open Markets Act"' (3 February 2022) <<https://www.uschamber.com/antitrust/u-s-chamber-letter-on-s-2710-open-app-markets-act>> accessed January 2026.

2.7. Conclusion and Outlook

The transatlantic comparison demonstrates a fundamental divide in antitrust philosophy and enforcement practices. While the US remains anchored in the CWS (favoring ex-post, case-by-case litigation and a cautious approach to avoid false positives), the EU carefully centers its policy on market structure, fairness and contestability, with an increasing focus on ex-ante obligations under the DMA. These diverging philosophies influence regulatory priorities, evidentiary thresholds and tolerance for regulatory intervention.

In practice, this divergence has contributed to markedly different responses to challenges posed by Big Tech. As the EU has incorporated privacy, data concentration, and self-preferencing into its toolkit of antitrust analysis, it treats them subsequently as structural threats to competition. Its enforcement strategies allow it to target entrenched market power directly and proactively. By contrast, the US has been slower to adapt to these market realities - constrained by the CWS, the burden of proving harm across both sides of the market in the context of zero-price platforms, and the absence of an equivalent regulatory framework to the DMA. Legislative attempts like the OAMA and the AICOA mark awareness of these gaps but face political resistance and remain unacted.

The dynamics examined in this chapter will become even more consequential in the context of GenAI, as several advanced technologies reshape digital markets; AI is set to deepen data dependencies, strengthen network effects, and increase the strategic importance of infrastructure control. Subsequently, this potentially brings the core transatlantic market power differences into more focus which will be more evident in the next years. Particularly, the coming years will also show whether these dynamics encourage convergence between US and EU enforcement models or cement their divergence.

The next chapter turns its focus to AI and considers how it may reinforce Big Tech's entrenched dominance while creating new challenges for innovation and regulation.

3. From Big Tech to Bigger Algorithms: AI, Market Power and Innovation Risks

3.1. From “Search” to “Generative”

Ever since its rapid advancement, AI has become an important stable in modern times. It functions as a powerful tool for growth while also posing significant harm to digital safety and market fairness, making AI policy a global priority. Consumers are shifting away from a world of directed discovery through search results to one of instant resolution through AI generation. While consumers clearly benefit from this, they also embrace the risks like bias, fraud, and data loss. AI also provides immense opportunities for new market entrants that, however, need to be protected from the anti-competitive practices of established incumbents. AI-powered algorithms, data analytics, and automated decision-making algorithms strengthen and foster existing structural advantages of Big Tech companies. They are beneficial to their data advantages; they expand their access to data, magnify network effects, and improve self-preferencing methods to the benefit of dominant platforms – a challenge that the EU aims to mitigate with the DMA to ensure a contestable digital landscape²¹⁵.

Beyond these immediate threats, its ongoing development suggests that Generative AI (GenAI) marks a broader structural shift that will potentially strengthen the market power of Big Tech companies. While AI offers efficiency, it also creates a unique risk of reinforcing incumbency; as a disruptive force, it could potentially deepen economic moats through vertical integration and ecosystem strategies²¹⁶. The likelihood of incumbency reinforcement is exacerbated further by the vertical integration of the AI supply chain. Access to high-quality data sets and cloud infrastructure serve as the primary components for both upstream and downstream AI markets. However, because dominant companies of the current era (e.g. Google, Amazon, Microsoft) already own the necessary data and platforms for large-scale training, Big Tech is in a unique position of technological leverage, allowing incumbents to dictate the terms of innovation for the entire sector. Subsequently, this has the potential to turn what could have been disruptive technology into a weapon for further market concentration²¹⁷.

²¹⁵ Directorate-General for Competition and Directorate-General for Communications Networks, Content and Technology, ‘High-Level Group for the Digital Markets Act Public Statement on Artificial Intelligence’ (Statement, 22 May 2024) <https://digital-markets-act.ec.europa.eu/high-level-group-digital-markets-act-public-statement-artificial-intelligence-2024-05-22_en> accessed 17 October 2025.

²¹⁶ OECD, *Artificial Intelligence and Competitive Dynamics in Downstream Markets* (OECD Roundtables on Competition Policy Papers No 331, OECD Publishing 2025) <https://www.oecd.org/en/publications/artificial-intelligence-and-competitive-dynamics-in-downstream-markets_ccf0624a-en.html> accessed 10 December 2025, 7 and 37.

²¹⁷ Ibid 19.

In its dual nature, AI functions as a driver for innovation and simultaneously as a potential tool for market foreclosure, posing a massive challenge for policymakers. On one side, it promises important efficiency gains, improved user experience, and new product development. On the other side, however, the risk remains that dominant companies could leverage their powerful positions in related markets, such as cloud or search services, to distort competition in nascent AI markets. Consequently, this dynamic can potentially lock customers into existing ecosystems, which requires a careful regulatory balance to foster innovation without embedding existing market power²¹⁸. Policymakers face the challenge of balancing regulatory intervention against the risks of under- and over-regulation. Underregulating may strengthen existing Big Tech monopolies by leveraging data moats, while overregulating risks hindering the innovation necessary for new companies to enter the market. Therefore, the objective is to find an approach that fosters a contestable market without undermining progress²¹⁹.

The increasing emphasis on GenAI signifies a shift from traditional AI. It generates entirely new output rather than just processing information. From antitrust law perspective, the EC acknowledges that these technologies are capable of reinforcing both market power dynamics and productivity, creating risks of control by dominant players and concentration²²⁰. This shift threatens the open web's foundational economic model. As noted by the European Parliament, the ability of GenAI models to synthesize answers directly introduces a substitution effect; Platforms no longer serve as intermediaries directing traffic to external sites, but direct rivals that fulfill user requests internally.

This dynamic puts publishers at risk, potentially depriving them of the traffic and revenue required for their survival²²¹, a concern that has also been issued by the FTC (warning that control over essential technical building blocks could enable incumbents to stifle competition by steering away consumers to their own GenAI products)²²². Furthermore, smaller developers often partner with dominant companies to secure computing power and access to consumers. While this could support

²¹⁸ Competition and Markets Authority, *AI Foundation Models: Initial Report* (September 2023). <<https://www.gov.uk/government/publications/ai-foundation-models-initial-report>> accessed 20 December 2025, para 4.7.

²¹⁹ 'Regulators are focusing on real AI risks over theoretical ones' *The Economist* (22 August 2024) <<https://www.economist.com/leaders/2024/08/22/regulators-are-focusing-on-real-ai-risks-over-theoretical-ones-good>> accessed 25 November 2025.

²²⁰ European Commission, 'Competition in Generative AI and Virtual Worlds' (n 84) 2.

²²¹ European Parliament, *Generative AI and Copyright: Legal and Policy Challenges* (Study for the Committee on Legal Affairs, 2023) <[https://www.europarl.europa.eu/thinktank/en/document/IUST_STU\(2025\)774095](https://www.europarl.europa.eu/thinktank/en/document/IUST_STU(2025)774095)> accessed 4 December 2025, 104-105.

²²² Federal Trade Commission, 'Generative AI Raises Competition Concerns' (n 148).

the market entry in the short term, it might also develop dependencies and concentrate core resources in the hands of dominant firms. Subsequently, startups exchange exclusive technology access or equity for computing power, reinforcing the value of the incumbent's proprietary ecosystem. This, however, also creates a feedback loop where the feedback data from actual use improves the incumbent's model accuracy, rendering their platform more lucrative and entrenching further their dominance through network effects²²³.

3.2.Weaponizing Privacy

As established, Big Tech companies provide their services to consumers mostly at zero cost, and in turn, they get access to user data which can range from personal information to digital footprints – this data is then processed and sold to advertisers who want to push their services and products to their desired target audience. This is crucial in the era of AI, where data has evolved into a decisive factor in gaining and keeping market power and shifted away from being a mere byproduct of digital services²²⁴.

This is particularly true for GenAI where the performance of the models directly depends on the quality and exclusivity of the training data²²⁵ - data is considered unique when there are no reasonable substitute sets and it is required to compete in the market. In concentrated markets, acquisitions and mergers often lead to such unique data sets as they combine behavioral data like app usage data, payment histories, search telemetry, and other combinations of advertising behavior²²⁶.

Thus, it makes sense to evaluate if there is a structural misalignment between how value is extracted on data-driven platforms and how antitrust law currently categorizes consumer welfare. Makridis and Thayer argue that given how the data collected and processed through advanced analytics become one of the decisive factors in a firm's market power, this exchange should be the central focus of antitrust scrutiny. Otherwise, practices that concentrate data control will persist and escape antitrust enforcement as long as the monetary value to the consumer remains null²²⁷.

²²³ European Commission, 'Competition in Generative AI and Virtual Worlds' (n 84), 4-5.

²²⁴ Makridis and Thayer (n 5) 116.

²²⁵ European Commission, 'Competition in Generative AI and Virtual Worlds' (n 84), 7.

²²⁶ Makridis and Thayer (n 5) 121.

²²⁷ Ibid 117.

Building on this, the unique dynamics of AI heighten these concerns: Unlike conventional network effects which depend on direct user-to-user interactions, AI markets are defined by data feedback loops; An incumbent's dominance does not just attract more consumers, but it also generates a specific type of training data (for instance, user behavior) which improves the model's accuracy exponentially over time.

This potentially establishes fundamental market entry barriers that are qualitatively different from non-AI driven markets²²⁸. This dynamic was fundamental to the testimony of Satya Nadella (Microsoft's CEO) in the landmark ruling of *United States v. Google* (2024) case, where he argued that without access to a massive river of query data, it would prove to be impossible for rivals to refine their models to market-leading level in the "vicious cycle" of dominance²²⁹. Since the historical depth of data defines the model's performance quality, a new company cannot simply catch up through capital investment or acquiring users – new market entrants will be permanently behind the learning curve of the incumbent, which insulates the dominant company from competition irrespective of the entrant's technical innovation²³⁰²³¹.

Moreover, in the absence of structural market intervention, privacy law can be abused to entrench the dominance of Big Tech companies. Introduced to give users control over their personal data²³², it involuntarily played a big part in boosting the market share of Big Tech. Apple's App Tracking Transparency framework (ATT) is a prime example of how privacy claims could be used to mask exclusionary conduct. In 2021, Apple was accused of abusing its ATT framework to establish critical asymmetry in the digital advertising market; Apple was alleged of introducing a discouraging opt-in prompt that third-party developers were required to display to users to track their behavior for advertising purposes²³³. However, when applied to Apple's own advertising services, they were not subject to the same requirements, exempting itself effectively from the strict consent barriers it required third-party developers to follow²³⁴. Consequently, Apple would engage in the act of self-

²²⁸ European Commission, 'Competition in Generative AI and Virtual Worlds' (n 84) 5.

²²⁹ Jordan Novet, 'Microsoft CEO Nadella testifies about competing with Google in antitrust trial' *CNBC* (2 October 2023) <<https://www.cnbc.com/2023/10/02/microsoft-ceo-testifies-about-competing-with-google-in-antitrust-trial.html>> accessed 16 December 2025.

²³⁰ Ibid.

²³¹ Competition and Markets Authority, *AI Foundation Models: Update Paper* (April 2024) <<https://www.gov.uk/government/publications/ai-foundation-models-update-paper>> accessed 20 December 2025, para 3.17.

²³² Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) [2016] OJ L 119/1, article 1.

²³³ Autorité de la concurrence, *Décision 21-D-07* (17 March 2021), para 73.

²³⁴ Ibid para 79.

preferencing where it leveraged its control over the operating system to mandate restrictive standards on competitors that it did not apply to itself, distorting competition under the guise of protecting user privacy.

While the French Competition Authority initially ruled that it found no antitrust violation at the preliminary stage²³⁵, it explicitly decided to continue the investigation to assess the merits²³⁶. In 2023, the French Competition Authority submitted its Statement of Objections, raising concerns about Apple's data practices. While the particular details remain confidential, it confirmed that the objections related to how Apple used user data for its own advertising services²³⁷ - this could be interpreted as continued concern regarding Apple's alleged self-preferencing practices, leveraging its control over the operating system to impose restrictive rules on rivals while exempting itself from them²³⁸.

This asymmetry is even greater in AI-driven markets when incumbents control the fundamental components for establishing AI as they can act as gatekeepers and unlawfully restrict access to key input data. By hiding behind the guise of privacy, they ensure that only their own AI models have the full context of the user's data, which limits what users can choose because competitors cannot build AI that is as personalized as the one owned by the operating system²³⁹.

3.3. Infrastructure as a Bottlenecks in AI Markets

While data is a key component of the AI revolution, hardware is equally concentrated. Vertically integrated Big Tech companies control crucial upstream inputs like data centers and cloud infrastructure, while simultaneously operating at the downstream level through AI services and consumer applications. This dual role creates an impactful conflict of interest; companies supplying essential AI infrastructure also compete directly with the developers who rely on that infrastructure²⁴⁰.

²³⁵ Ibid para 171.

²³⁶ Ibid 37.

²³⁷ Autorité de la concurrence, 'Advertising on iOS mobile applications: the General Rapporteur confirms having notified the Apple group of an objection' (Press Release, 27 July 2023) <<https://www.autoritedelaconcurrence.fr/en/press-release/advertising-ios-mobile-applications-general-rapporteur-confirms-having-notified-apple>> accessed 30 December 2025.

²³⁸ *Décision 21-D-07* (n 233), para 79.

²³⁹ Competition and Markets Authority, *AI Foundation Models: Update Paper* (n 231), para 5.5.

²⁴⁰ European Commission, 'Competition in Generative AI and Virtual Worlds' (n 84), 3.

Subsequently, dominant companies can limit choice or distort competition by degrading interoperability or increasing costs for competitors who are also their customers²⁴¹.

The scarcity of hardware plays a crucial role in this dynamic. Due to historical shortages, AI accelerator chips needed for training models are hard to acquire and are prohibitively expensive. This favors companies with large-scale capital reserves that can afford more easily the necessary hardware to train competitive models, placing resource constrained challengers at a disadvantage.

Therefore, to scale AI, new firms need to enter partnerships with tech giants to secure essential computational power, often receiving computing credits instead of capital. These agreements enable dominant providers to enforce ecosystem lock-in and effectively extract rents from the smaller companies dependent on their services. In this way, emerging challengers become tethered to the very infrastructure of the firms they seek to disrupt, creating market-wide vulnerabilities and cementing the control of incumbents over AI's future²⁴².

3.4. The Strategic Choices in AI Partnerships and Preinstallation Practices

Big Tech companies have pivoted increasingly to strategic partnerships and minority investments recognizing that direct acquisitions of major AI infrastructure would alarm immediate antitrust scrutiny. The partnership between OpenAI and Microsoft is a good example; In this case, Microsoft did not gain control over OpenAI but was granted an observatory seat on its board following the high-profile firing and re-hiring of OpenAI's CEO.

While these collaborations provide significant efficiency gains, they also allow dominant companies to exercise significant influence over critical infrastructure without formal acquisitions. By embedding a partner's model directly into their existing operating systems and software suits, incumbents can expand their dominance without triggering immediate antitrust scrutiny²⁴³²⁴⁴.

A related strategy is the exploitation of pre-installation practices to secure on-going data streams necessary to train and refine algorithms. In the Google Android case, the EC concluded – and the

²⁴¹ Jai Vipra and Sarah Myers West, *Computational Power and AI* (AI Now Institute, 27 September 2023) <<https://ai-nowinstitute.org/publications/compute-and-ai>> accessed 01 January 2026.

²⁴² Ibid.

²⁴³ European Commission, 'Competition in Generative AI and Virtual Worlds' (n 84), 3 and 6.

²⁴⁴ Competition and Markets Authority, *AI Foundation Models: Initial Report* (n 218), para 2.26.

court upheld - that Google abused its market dominance by contractually requiring manufacturers to pre-install Google Search and Chrome as a condition for accessing the Google Play Store²⁴⁵.

This strategy benefited from the status quo bias principle. According to this principle, users tend to stick with default settings²⁴⁶ which would allow Google to capture massive amounts of user interactions. Subsequently, the default placement did not only sideline rivals but also ensured that every search on an Android device was routed to Google by default²⁴⁷, enabling the accumulation of unparalleled search-query data. This data could then be used to refine Google's algorithms, reinforcing its competitive advantage – a dynamic that applies equally to AI-powered services integrated into default system environments.

3.5. The Interplay of the DMA, the AI Act, and Antitrust Law

As established in this thesis, AI plays a crucial role in shaping digital markets; AI-driven algorithms, data analytics, and automated decision-making systems strengthen and foster existing structural advantages of dominant platforms. They help expand data advantages, magnify network effects, improve self-preferencing mechanisms and analyze user behavior to the benefit of the incumbent. For antitrust law, the challenge is to balance regulatory interventions that prevent these risks against rules that are too restrictive and undermine the innovation potential that AI promises. Underregulating risks leaving incumbents to deepen their market dominance through proprietary data and high-switching costs. Overregulation risks hindering innovation and discouraging market entry by new companies.

Policy debates shifted from abstract “existential risk” fears to addressing identifiable and immediate harms arising from AI systems – for instance, violations of privacy laws. The AI Act targets these risks while aiming not to overburden innovation. However, uncertainties over permissible use of data for AI model training has already caused companies like Meta and Apple to delay or even withhold certain AI rollouts in Europe, affecting consumer access and raising questions about the unintended consequences of regulation²⁴⁸.

²⁴⁵ Case T-604/17 *Google and Alphabet v Commission* (Google Android) ECLI:EU:T:2022:541, para 16.

²⁴⁶ Ibid paras 539, 574.

²⁴⁷ Ibid paras 306, 610.

²⁴⁸ The Economist (n 219).

The EU AI Act builds on but also extends beyond earlier regulatory frameworks like the GDPR or the DMA. The GDPR imposed strict limits on the use of personal data and transparency, including rules on automated decision making under Article 22 GDPR²⁴⁹. However, the creation of the EU AI Act reflects a judgement that earlier frameworks could not address the competitive challenges and systemic risks posed by AI²⁵⁰.

The DMA imposes certain ex-ante obligations on designated gatekeepers to ensure contestable and fair digital markets. Where an AI provider qualifies as a gatekeeper and integrates functionalities of AI into existing core platform services, the DMA's gatekeeper obligations apply alongside AI-specific requirements. This is important because while the DMA is applied onto certain exclusionary practices, the framework will not cover all competitive concerns – especially where certain conducts fall outside of its scope or the conduct does not involve a designated gatekeeper²⁵¹.

The EU AI Act seeks to create single market for AI within the EU, establishing legal certainty for the adoption of technologies powered and driven by AI while simultaneously addressing their risks to protection of fundamental rights, the rule of law, democracy and other values²⁵². It frames AI as a product subject to a risk-based safety regime and regulates two main types of technical objects. Firstly, software that generates output such as predictions, content, decisions or recommendations once given input, and secondly, general-purpose AI models that can be integrated into multiple systems and engage in a broad range of tasks²⁵³.

Additionally, it applies obligations to two regulated actors: providers, who are responsible for the development of AI systems or models, and deployers, who use AI under their own authority. Compliance is required before, during and after market placement²⁵⁴. In its clearly defined risk-based approach²⁵⁵, (conditional) bans apply to certain harmful practices - for instance, under Article 5 (1a), the subliminal manipulation of individual behavior is strictly prohibited²⁵⁶.

²⁴⁹ GDPR (n 232), article 22; see also recital 71.

²⁵⁰ Marco Almada, 'The EU AI Act in a Global Perspective' in Markus Furendal and Magnus Lundgren (eds), *Handbook on the Global Governance of AI* (Edward Elgar 2025, forthcoming) <https://ssrn.com/abstract=5083993> accessed 4 September 2025, 2 and 7.

²⁵¹ European Commission, 'Competition in Generative AI and Virtual Worlds' (n 84) 9-10.

²⁵² Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonized rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act) [2024] OJ L 202/1, recitals 97, 176 and 177.

²⁵³ Almada (n 250) 3.

²⁵⁴ Ibid 3-4.

²⁵⁵ AI Act (n 252) recital 26; see also article 9.

²⁵⁶ Ibid Article 5 (1a).

On the other hand, AI applications with great potential of harm are qualified as high risks if they can be mitigated through risk management measures – accordingly, the regulation names detailed technical requirements for deployer- and provider obligations²⁵⁷, as well as post-market surveillance obligations²⁵⁸. Under Articles 51 to 55, providers of general-purpose AI models (especially those with systematic risk) are obliged to adhere to detailed obligations, including reporting obligations, model evaluation, adversarial testing and the documentation of training processes²⁵⁹.

While designed for safety and rights protections, these regulatory obligations fundamentally interact with antitrust concerns. Accordingly, compliance becomes a prerequisite of market entry, potentially influencing market structure by determining who can participate. Complex obligations – especially in the context of high-risk/systemic risk qualifications – inadvertently risk profiting well-resourced incumbents over smaller entrants. For instance, the quality-of-training-data standards laid out under Article 10 AI Act are more manageable for large platforms with vast data sets, while smaller companies may struggle, facing prohibitive compliance costs. Subsequently, this could entrench incumbency instead of leveling the playing field. These concerns are magnified by the dependence of small entrants on incumbents for scarce, expensive AI key inputs like specialized hardware or training data.

3.6.The US AI Act

If the EU’s regulatory philosophy risks entrenching dominant platforms through high fixed costs of compliance, the US offers a contrasting model. Contrary to the EU, the US has not yet enacted a comprehensive federal law for the regulation of AI with binding provisions analogous to the EU AI Act²⁶⁰. Instead, the US has approached its AI governance through a decentralized patchwork of revocable executive actions and voluntary standards. This model prioritizes market flexibility and leadership in technology over the EU’s precautionary principle. This stance was formalized in 2019 when the White House directed federal agencies to “avoid regulatory or non-regulatory actions that needlessly hamper AI innovation and growth”²⁶¹.

²⁵⁷ Almada (n 250) 4.

²⁵⁸ AI Act (n 252) recital 71.

²⁵⁹ Ibid articles 51-55.

²⁶⁰ Laurie Harris, Artificial Intelligence: Overview, Recent Advances, and Considerations for the 118th Congress (CRS Report R47644, 4 August 2023) <<https://www.congress.gov/crs-product/R47644>> accessed 30 December 2025.

²⁶¹ Office of Management and Budget, ‘Guidance for Regulation of Artificial Intelligence Applications’ (Memorandum M-21-06, 17 November 2020) <<https://www.whitehouse.gov/wp-content/uploads/2020/11/M-21-06.pdf>> accessed 2 January 2026, 2.

Thus, the US' equivalent of the EU AI Act is a mix of different mechanisms, which shift the burden of compliance from pre-market certification (in alignment with EU's precautionary principle) to post-market accountability. Here, Executive Order 13859 is the foundational legal instrument for the US approach as it established the policy of maintaining American leadership, defining AI leadership as a product of less regulation and more R&D²⁶². Furthermore, the National Institute of Standards and Technology Risk Management Framework (NIST RMF) treats AI governance not as a product safety checklist, but rather as an organizational process of "Govern, Map, Measure, and Manage"²⁶³. Unlike the principles established within the AI Act (which are legally binding for high-risk systems), the NIST AI Risk Management Framework is explicitly designed as voluntary and non-sector-specific²⁶⁴.

However, the most direct legislative counterpart to the AI Act is the Algorithmic Accountability Act (AAA), of which different iterations have surfaced over the past few years to address AI-driven decision systems. While the EU regulates high-risk AI systems, the AAA targets similar issues through the definition critical decision processes (decisions that affect a consumer's access to housing, education, employment or healthcare)²⁶⁵. Key provisions of this proposed legislation included assigning obligations to covered entities to conduct Algorithmic Impact Assessments (AIA) prior to deployment²⁶⁶. The proposed bill would also foresee the concept of an augmented critical decision process to close the vendor loophole. By introducing this principle, the AAA aims to ensure that upstream AI providers cannot evade scrutiny; if a third-party tool is utilized to make a critical decision under the AAA, the provider needs to disclose their status and assist the deployer in the impact assessment, which is similar to chain of liability concepts implemented through EU frameworks²⁶⁷.

While the US approach avoids the structural hurdles of high upfront compliance costs inadvertently imposed by the EU model, the absence of a federal AI framework might introduce a different set of issues that possibly distorts competition. For instance, in the absence of such federal statute, there is a huge quantity of state-introduced distinct AI-related bills; According to the National Conference

²⁶² Executive Order No 13859, 84 FR 3967 (11 February 2019) <<https://www.federalregister.gov/documents/2019/02/14/2019-02544/maintaining-american-leadership-in-artificial-intelligence>>, 1.

²⁶³ National Institute of Standards and Technology, *Artificial Intelligence Risk Management Framework* (AI RMF 1.0) (NIST AI 100-1, 2023) <<https://www.nist.gov/publications/artificial-intelligence-risk-management-framework-ai-rmf-10>> accessed 10 October 2025, 20.

²⁶⁴ Ibid 2.

²⁶⁵ Algorithmic Accountability Act of 2022, S 3572, 117th Cong (2022), s 2 (8).

²⁶⁶ Ibid s 3(a)(1)(A).

²⁶⁷ Ibid s 2(1) and s 3(b)(1)(C).

of State Legislatures, all 50 states have introduced legislation on this topic in 2025²⁶⁸. This lack of uniform standard risks distorting the competitive landscape by creating significant market entry barriers. Accordingly, established incumbents would be better equipped to handle the legal and financial costs of navigating all distinct compliance regimes, while smaller firms would struggle.

Furthermore, dominant incumbents strategically engage in expensive voluntary obligations, e.g. paying for training data they might otherwise legally use for free (under the copyright's free use doctrine), specifically to raise the cost of doing business not only for them but also for everyone else. Usually, these standards (e.g. the NIST RMF) are technically voluntary, however, the incumbents' adoption makes them a de facto requirement for commercial viability. Established dominant companies like Google can absorb these self-imposed costs, which, effectively, function as artificially created barriers to entry. Ultimately, these strategies disproportionately hurt other competitors, specifically smaller rivals and new entrants; Established incumbents not only can recover from these self-imposed costs more easily, but they arguably come out ahead or even better, if this strategy effectively locked out or eliminated their competitors²⁶⁹.

Another important difference is the EU's ex-ante certainty compared to the US' ex-post litigation risks. If a company makes claims on its AI but an impact assessment later reveals inconsistencies (e.g. bias), the company might be held liable for deceptive business practices under the FTC Act²⁷⁰. While incumbents can absorb potential monetary fines as standardized operating costs, the legal fees from a single investigation under the FTC Act regarding an algorithmic error can represent an existential threat for newer entrants. This dynamic inadvertently creates an incentive for smaller companies to seek protection through collaboration with established incumbents for capital and to leverage the companies' legal and compliance infrastructure as protection against existential litigation risks.

²⁶⁸ National Conference of State Legislatures, 'Artificial Intelligence 2025 Legislation' (2025) <<https://www.ncsl.org/technology-and-communication/artificial-intelligence-2025-legislation>> accessed 3 January 2026.

²⁶⁹ Mark A Lemley and Joshua Noti-Victor, 'Anticompetitive Acquiescence in AI Content Licensing' (ProMarket, 2025) <<https://www.promarket.org/2025/11/18/anticompetitive-acquiescence-in-ai-content-licensing/>> accessed 3 January 2026.

²⁷⁰ Federal Trade Commission and others, 'Joint Statement on Enforcement Efforts Against Discrimination and Bias in Automated Systems' (25 April 2023) <<https://www.ftc.gov/legal-library/browse/cases-proceedings/public-statements/joint-statement-enforcement-efforts-against-discrimination-bias-automated-systems>> accessed 10 December 2025.

Last but not least, the US approach struggles to address the antitrust concern of algorithmic tacit collusion, where competitors indirectly coordinate pricing through shared third-party pricing algorithms without explicit (in person) communication. Although the DOJ and the FTC have recently argued that such schemes constitute concerted action under Section 1 of the Sherman Act, as concerted action can also happen in the form of an algorithm provider²⁷¹, ex-post investigations create uncertainty regarding the algorithmic intent. In contrast, the ex-ante obligations of the EU mitigate these risks by mandating transparency, which forces companies to disclose an algorithm's underlying logic before deployment.

3.7. Conclusion and Outlook

AI has emerged not just as a technological innovation, but rather as a transformative force reshaping the dynamics and structure of the digital economy. Throughout this chapter, we have seen how AI-driven algorithms, data-feedback loops, generative capabilities and vertical integration of AI supply chains can strengthen existing market power, reinforce data moats and amplify network effects in favor of dominant platforms. Accordingly, AI is simultaneously both a tool for innovation and for market foreclosure, deepening the very concerns that already define Big Tech.

Control over data and hardware allows incumbents to shape market access and tilt the playing field to their advantage, often under the guise of privacy protection or through essential resource bottlenecks. Furthermore, partnerships, minority investments and pre-installation defaults can secure long-term data streams and market positioning without triggering antitrust scrutiny.

The interplay between the EU's DMA, AI Act and antitrust law highlights the complexity of balancing competition policy and innovation. The EU's risk-based framework seeks to ensure safe AI deployment and fairness in digital markets, while inadvertently entrenching incumbents through high compliance costs which are disproportionately borne by smaller competitors. In comparison, the US lacks a unified AI Act and is defined by decentralized, voluntary standards and post-market accountability. While this avoids high upfront costs, its fragmentation and dependence on ex-post enforcement potentially creates uncertainty and uneven competitive conditions, especially disadvantaging smaller firms.

²⁷¹ *Cornish-Adebiyi v Caesars Entertainment Inc*, No 1:23-cv-02536 (D NJ, 28 March 2024) (Statement of Interest of the United States), 5.

Thus, the outlook for AI regulation and competition policy is defined by a common dilemma; The question is how to regulate AI from becoming a structural tool for market entrenchment, while protecting its potential to deliver societal benefits and innovation. Overregulation may stifle emerging competitors, underregulating gives room for algorithmic monopolies to form and persist.

In the last chapter, the focus shifts to a broader examination of the challenges and limitations facing contemporary regulatory approaches to digital markets and Big Tech. The upcoming discussion considers underlying factors that affect the efficiency of current antitrust frameworks and enforcement tactics, before analyzing possible ways to strengthen these approaches through structural and restorative measures. This will culminate in transatlantic case studies on recent investigations into Google's practices, providing an idea of the current state of antitrust enforcement and its ability to address entrenched market power.

4. Too Big to Comply: Why Current Remedies Fail and What the Google Cases Reveal

4.1. The Regulatory Mismatch

There is a fundamental mismatch between how competition law assesses harm and the economic reality of data's value. In the digital age, data is not just a business input but the decisive factor in gaining and maintaining market power. Yet, despite recent shifts in agency enforcement priorities, established judicial frameworks remain largely tethered to measurable outputs like consumer price, ignoring that data is the currency of the modern market.

This doctrinal pivot is central to the current enforcement strategy of US agencies, which treat user data increasingly not as a mere privacy concern, but as a critical competitive asset and a primary metric of value in zero-price markets. However, while enforcers argue that the extraction of data constitutes a price paid by consumers, this interpretation still lacks statutory grounding. Unless and until US courts explicitly accept that data collection constitutes a prosecutable antitrust harm, this shift will remain rather theoretical than enforceable.

For established incumbents, the accumulation of data sets act as a self-reinforcing barrier to entry, limiting the ability of rivals to compete efficiently. In concentrated markets like app stores and search engines, the aggregation of unique behavioral patterns (e.g. payment histories and search patterns) drives the personalization and AI model performance that competitors cannot replicate. This

dynamic creates a data-feedback loop; dominance yields better data, which yields superior product performance. In turn, this attracts more users and further entrenches the monopoly. When mergers allow companies to combine unique data sets, they establish an infrastructure that makes competition nearly possible²⁷².

This economic reality exposes the structural failure of the *Ohio v Amex* framework. Because consumer-facing services are provided often monetarily free, the Amex requirement to prove harm on both sides of a transaction becomes an impractical burden. The current hands-off judicial approach struggles to realize that the true harm is not price gouging, but rather privacy loss, content narrowing, and the restriction of innovation. This failure is evident especially in AI contexts, where exclusive access to high quality data sets directly dictates the maturity and sophistication of the models that will define the next generation of the economy.

This misalignment between the economic realities of data-driven markets and legal harm assessment points to a deeper weakness within the prevailing CWD. Anchored to conventional price-based metrics, it struggles to assess the value exchanges at the heart of modern platform services. One way to fix this disconnect is to reconceptualize data itself as a form of transactional currency. Ultimately, this would allow harm assessments to reflect the realities of zero-price markets.

4.1.1. Rethinking the Consumer Welfare Standard

Reframing the CWD to recognize data as a transactional currency is crucial for digital market enforcement. The traditional price-centric interpretation, still dominant in judicial reasoning, ignores the consumer “pay” for their “free” services with personal information (habits, location, social connections, etc.) which platforms monetize without returning corresponding value in service quality²⁷³.

If data were formally treated as currency, the legal test would move from the service’s monetary value to the fairness of the exchange. Consequently, courts could require platforms to justify increased data collection with verifiable innovation rather than mere efficiency gains. The Google Search evolution is a good example to illustrate this disparity; while the service has not improved in

²⁷² Makridis and Thayer (n 5) 121.

²⁷³ Makridis and Thayer (n 5) 123.

a manner proportional to the massive increase in data value extracted from consumers (e.g. spending habits, cross-site activities), the “price” users pay in privacy skyrocketed²⁷⁴. Thus, if data were formally treated as currency, this approach would also solve the *Ohio v. Amex* problem. In zero-price markets, where value capture is asymmetric, acknowledging data as currency enables courts to focus on the consumer-to-platform side of the market. This bypasses the requirement to prove simultaneous harm on both sides of a two-sided platform²⁷⁵.

This recognition broadens the CWS to fit the reality of zero-price markets. It mandates a fair exchange of value where increased data collection must be met with measurable improvements in product performance or privacy. As a result, consent to data extraction would evolve from a procedural checkbox into a substantive transaction, clearly informing users of the specific advantages they receive in exchange for their data.

With that, market dynamics would shift as well; companies would be incentivized to compete for the privilege of obtaining user data. Instead of passively forfeiting data due to network effects, users would receive competing value propositions (e.g. exclusive content or reduced advertising), which would subsequently foster innovation and quality. When coupled with data portability rights, it decreases switching costs, allowing consumers to transfer their “currency” (preferences, user history, etc.) with them to rival ecosystems, effectively dismantling the lock-in effects that protect incumbents.

However, valuing data comes also with significant implementation hurdles²⁷⁶. This is because data is not uniform. The strategic value of data is not identified by its volume, but rather by its contextual relevance and exclusivity. For instance, specific data sets used for AI training hold higher strategic value than basic demographic information. Furthermore, the valuation gap is magnified by a company’s existing market dominance, as a dominant incumbent can derive synergistic value from new data by cross-referencing it with existing repositories. This makes the same unit of data worth more in the hands of a monopolist than in the hands of a new entrant.

²⁷⁴ Ibid.

²⁷⁵ Ibid 123-124.

²⁷⁶ Ibid 125.

4.2. The EU Approach

Recent developments in EU competition policy, specifically the introduction of the DMA, have translated reform proposals into operational reality. The DMA marks an important shift from reactive, case-by-case enforcement to ex-ante regulatory framework. By assessing conduct based on contestability and fairness, it significantly lowers the threshold for intervention in concentrated digital markets²⁷⁷.

Crucially, the DMA reverses the burden of proof in specific contexts²⁷⁸. This reflects a recalibration of the error-cost framework, according to which, in digital markets, the cost of under-enforcement (allowing a monopoly to entrench itself) outweighs the risk of over-enforcement greatly²⁷⁹. This recalibration is necessary because the traditional assumption that markets self-correct themselves naturally through new entry is rendered obsolete by structural features like network effects and AI-driven economies of scale. Under these circumstances, waiting for the market to fix itself is negligent.

However, the DMA has a structural limitation; it applies only to designated gatekeepers and contains a predefined list of obligations²⁸⁰. Subsequently, markets that fall just outside the DMA's threshold remain stuck in the scope of traditional enforcement. To fix this, the logic of rebuttable presumptions²⁸¹, justified by the massive asymmetry in information between platforms and regulators, should be extended to general antitrust law as well²⁸². Doctrinally, this is compatible with existing EU law. Under Article 101 TFEU, "by object" restrictions are presumed anticompetitive, and similarly, under Article 102 TFEU certain practices by dominant companies should be treated as *prima facie* unlawful²⁸³, shifting the burden to the defendant to prove that the conduct does not restrict competition²⁸⁴.

²⁷⁷ European Centre for International Political Economy, *EU Export of Regulatory Overreach: The Case of the Digital Markets Act (DMA)*, ECIPE Policy Brief No 08/2025 <https://digital-markets-act.ec.europa.eu/gatekeepers_en> accessed 20 November 2025, 11.

²⁷⁸ DMA (n 30) recital 23; see also article 8(1).

²⁷⁹ Geradin and Katsifis (n 12) 21.

²⁸⁰ DMA (n 30) article 5 et seq.

²⁸¹ Ibid articles 3 (2) and 3 (5) DMA.

²⁸² Geradin and Katsifis (n 12) 22.

²⁸³ Ibid 23.

²⁸⁴ *Intel Corp v European Commission* (n 48) para 138.

For instance, Apple is designated as a gatekeeper for its core platform services (App Store, iOS)²⁸⁵. Under a general system of rebuttable presumptions, Apple would bear the burden of proving that its anti-steering provisions (forcing developers to use its payment systems) are strictly necessary, e.g. by illustrating that these restrictions significantly improve privacy or security in a way that other (less) restrictive alternatives could not. If Apple fails to prove this proportionality, the conduct in question is illegal. Ultimately, this approach prevents platforms from preventing users from making informed decisions about (cheaper) alternatives²⁸⁶, and dismantles the unsubstantiated security justifications often used to justify higher fees.

4.3.The Failure of Monetary Penalties and the Importance of Remedies

Discussions around the regulation of digital markets revolve typically around the fear that (over-) regulation might stifle innovation or distort competition. Heavy compliance risks slowing down technological advances and affecting incentives for market entry, especially for smaller companies. Innovation, however, is not inherently pro-competitive. When left unchecked, power can be consolidated in the hands of a few dominant firms, establishing structural barriers that limit contestability and lower diversity in market outcomes. In this context, regulation needs to be perceived as a necessary framework that sets the conditions aligning innovation with public interests and maintain healthy market competition.

Without clear and structural enforcement, dominant companies in digital ecosystems scale their advantage so much that even heavy penalties are absorbed as routine business costs. In such instances, behavioral remedies can lose their deterrent power and might be perceived as predictable line items in corporate accounting. With Big Tech companies deepening their presence in AI services, cloud infrastructure and data ecosystems, their ability to bundle products, foreclose rivals, and set de facto standards can leave regulation struggling to keep up unless rules are built into the market from the beginning.

Recent developments suggest that heavy regulatory scrutiny can derail high-profile transactions in some cases. Google's proposed acquisitions of companies such as HubSpot and Wiz fell through

²⁸⁵ European Commission, 'Commission Sends Preliminary Findings to Meta over Its 'Pay or Consent' Model for Breach of the Digital Markets Act' (n 116).

²⁸⁶ *Apple – App Store Practices (Music Streaming)* (n 40) paras 654-655.

partly because of the heightened antitrust and media attention it was drawing, as it would have faced extensive investigation, likely stretching over multiple years²⁸⁷.

The EC's enforcement strategy against Big Tech, however, has historically been based on the assumption that substantial monetary penalties would succeed as a deterring remedy. At least, this would be the impression that one would gain looking at the cumulative total of €8.25 billion in fines that the EC has imposed across three landmark rulings between 2017 and 2019. According to this, the EC has imposed €2.42 billion in the Google Shopping case, €4.34 billion in the Google Android case, and finally, €1.49 billion in the Google AdSense case²⁸⁸.

These fines are effectively insignificant when measured against the firms' overall capital spending priorities. For instance, for the first quarter of the fiscal year of 2024, Alphabet Inc. reported that it authorized to spend \$70 billion on stock repurchases²⁸⁹ and a total annual revenue of \$350.0 billion²⁹⁰. This makes the "substantial" monetary fines imposed by the EC look like expected annual budget expenses and eliminates any hope of deterrence, when the cumulative total from three landmark rulings amounts to roughly twelve percent of what the company voluntarily spent to buy back its own stock. Consequently, Big Tech companies have become so powerful that monetary fines do not qualify as effective punitive sanctions anymore.

From the perspective of incumbents, monopolization of proprietary ecosystems is the ideal outcome. The probability of detection is high; however, the speed of intervention is encouraging. While the enforcement of the DMA is an important step forward, Big Tech companies have had more than enough time to establish their vicious cycle of dominance. Even under the DMA, delays exist and the market can tip permanently during that period, the benefits from infringement become effectively infinite despite later antitrust scrutiny, while the punitive costs remain finite and manageable. Thus, it becomes economically rational for dominant companies to infringe the law, pay the fine, and retain the market structure.

²⁸⁷ Ian Allison, 'Google's Aborted Deals for Wiz, HubSpot Show Antitrust's Shadow over Tech' *Bloomberg* (23 July 2024) <<https://www.bloomberg.com/news/articles/2024-07-23/google-s-aborted-deals-for-wiz-hubspot-show-antitrust-s-shadow-over-tech>> accessed 2 December 2025.

²⁸⁸ European Commission, 'Antitrust: Commission fines Google €1.49 billion for abusive practices in online advertising' (Press Release, 20 March 2019) <https://ec.europa.eu/commission/presscorner/detail/en/ip_19_1770> accessed 2 December 2025.

²⁸⁹ Alphabet Inc, *Alphabet Announces First Quarter 2024 Results* (Press Release, 25 April 2024).

²⁹⁰ Alphabet Inc, *Form 10-K for the Fiscal Year Ended December 31, 2024* (US Securities and Exchange Commission, 2025) <<https://www.sec.gov/Archives/edgar/data/1652044/000165204425000014/goog-20241231.htm>> accessed 02.01.2026.

The practical failure of this approach becomes evident when analyzing the remedies of the Google Android aftermath. At the time of the EC’s findings of abuse, Google had already reaped the benefits of its conduct. To comply with court’s rulings²⁹¹, it implemented a choice screen to let users choose between alternative search providers, but it is doubtful that this measure had any potential to have long-lasting restorative impact; Through strong integration with partners, brand identity, and incorporation into numerous systems, the introduction of a choice screen would unlikely significantly alter market dynamics with Google likely remaining the familiar choice for most consumers²⁹².

The ineffectiveness of the Google Android remedies is also underscored by testimonies from competitors like DuckDuckGo who argue that despite the implementation of a free choice screen since 2021, Google’s market dominance had only become more entrenched²⁹³. This confirms the fundamental reality of digital markets: Once a market hits a tipping point, remedies that only alter the user interface cannot overcome the ingrained user behavior and brand inertia establishing during the years of dominance. Even-record breaking penalties like the €4.34 billion fine that the EC imposed in its ruling merely serve as small sacrifice Google had to pay to successfully buy and secure its permanent entrenchment in the market. The history of ineffective deterrence potentially incentivizes incumbents to replicate abusive strategies in nascent AI markets as well.

The 2024 investigation into the collaboration between Google and Samsung, which involves the pre-installation of Google’s Gemini AI model on Samsung’s Galaxy S24 mobile devices²⁹⁴²⁹⁵, confirms this concern. Functionally, this conduct is identical to the Android abuse, where Google leverages a partnership with a dominant hardware manufacturer to secure default placement for its technology. Most importantly, the fact that Google is willing to engage in this conduct despite the EC’s

²⁹¹ European Commission, ‘Antitrust: Commission Fines Google €4.34 Billion for Illegal Practices Regarding Android Mobile Devices to Strengthen Dominance of Google’s Search Engine’ (Press Release, 18 July 2018) <https://ec.europa.eu/commission/presscorner/detail/en/ip_18_4581> accessed 2 December 2025.

²⁹² ‘Google says rival search engines can appear on Android devices in Europe for free’ *Reuters* (8 June 2021) <<https://www.reuters.com/technology/google-says-rival-search-engines-can-appear-android-devices-europe-free-2021-06-08/>> accessed 22 November 2025.

²⁹³ DuckDuckGo, ‘Submission to the Competition and Markets Authority on its Provisional Decision to Designate Google Search Under the Digital Markets, Competition and Consumers Act’ (Response to Consultation, 20 August 2025) <<https://www.gov.uk/cma-cases/sms-investigation-into-googles-general-search-and-search-advertising-services>> accessed 2 January 2026, 3.

²⁹⁴ European Commission, ‘Competition in Generative AI and Virtual Worlds’ (n 84) 6.

²⁹⁵ ‘EU antitrust regulators want to know if Google and Samsung’s chatbot deal hinders rivals’ *Reuters* (17 July 2024) <<https://www.reuters.com/technology/artificial-intelligence/eu-antitrust-regulators-want-know-if-google-samsungs-chatbot-deal-hinders-rivals-2024-07-17/>> accessed 2 December 2025.

finding of abuse in the Google Android case confirms that current enforcement methods are not sufficient.

4.3.1. The Importance of Structural and Restorative Remedies

To address this fundamental issue, enforcement needs to shift towards restorative remedies. Unlike monetary penalties or simple “cease-and-desist” orders, which merely stop illegal conduct, restorative remedies aim to undo the damage and re-establish the competitive landscape that would have existed without the infringement. Legally, both the EU and US frameworks support this approach. In the EU, Article 7 of Regulation 1/2003 empowers the EC to impose structural remedies when behavioral ones are inefficient or equally burdensome²⁹⁶²⁹⁷. This allows positive interventions (e.g. granting rivals temporary benefits to lower market entry barriers) under the condition that they are proportionate²⁹⁸. While structural remedies (e.g. breakups or divestitures) carry higher execution risks, they offer a permanent solution that restores competition without constant monitoring²⁹⁹. Contrarily, behavioral remedies often do not go beyond a mere slap on the wrist, allowing companies to find new, not yet regulated ways to maintain the same harmful practices. Similarly, in the US, Section 2 of the Sherman Act gives courts broad discretion to impose restorative remedies (also in the form of structural remedies) to regulate illegal monopolies and deny incumbents the fruits of their wrongdoings³⁰⁰.

The design of these remedies must match the specific characteristics of the digital economy. In data-driven ecosystems defined by network effects, interoperability is an eligible tool to restore competition³⁰¹. This is because mandating multi-homing or data portability enables rivals to overcome the incumbent’s network advantages they would otherwise not be able to bypass. For instance, instead of a monetary fine in the Google Shopping case, a restorative remedy could have mandated Google to share the user transaction data it obtained through its illegal self-preferencing, thereby leveling the playing field for its competitors regarding algorithm training³⁰².

²⁹⁶ Geradin and Katsifis (n 12) 32.

²⁹⁷ Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty [2003] OJ L 1/1, article 7 (1).

²⁹⁸ Geradin and Katsifis (n 12) 33.

²⁹⁹ Ibid 38.

³⁰⁰ Ibid 31-32.

³⁰¹ Ibid 40.

³⁰² Ibid 29.

4.3.2. Conclusion and Outlook

In the age of data-driven digital markets and rapidly evolving AI ecosystems, conventional behavioral remedies have largely proven to be inefficient at addressing entrenched dominance. While they look good on paper, they do little to dismantle the structural competitive edge that incumbents have already amassed. Exclusionary behavior in these markets not only raise prices but they also suppress product diversity available to consumers. By denying interoperability or locking in default positions, dominant companies entrench a uniform solution, depriving users of the opportunity to explore better alternatives and discouraging competitors from investing in competing technologies.

In markets characterized by scale driven network effects, these strategies can permanently foreclose competition, with interface tweaks and fines serving merely as the cost of maintaining the status quo. Thus, effective enforcement must operate on the presumption that exclusionary conduct inherently harms innovation. It must prioritize remedies that actively restore competitive conditions (e.g. through mandated interoperability, access to critical data sets, or structural breakups). Only restorative and structural remedies can dismantle artificial barriers, reopen markets to genuine contestability, and align innovation with broader public interest. When left unchecked, incumbents will continue to use their entrenched monopolies to dictate the pace of innovation.

This reality becomes evident when looking at recent enforcement action in both the US and the EU. Despite headline covering sanctions and years of litigation, some of the most powerful digital platforms remain largely unshaken, as they treat legal challenges as temporary inconveniences and not as impactful constraints on their conduct. Few companies demonstrate this failure more clearly than Google. As one of the most dominant actors in data-driven markets, Google has repeatedly faced antitrust scrutiny on both sides of the Atlantic. However, the outcome of these cases raises an important but uncomfortable question: If these high-profile enforcement efforts have delivered so little lasting change, what does this say about the future of competition in digital markets?

4.4. The Google Case Studies

4.4.1 The EU Ad Tech Case

To understand the failure of the remedies in this case, one must first learn the severity of the diagnosis. Google's dominance in Ad Tech is not the result of superior efficiency, but of a conflict of interest which would be deemed criminal in financial markets. Here, Google simultaneously acted

as the buyer (representing advertisers via Google Ads and DV360), the seller (representing publishers via Google Ad Manager), and the auctioneer (AdX) where the transaction clears.

In equities trading, a stock exchange is prohibited legally from also acting as a primary broker for the buyer and seller, because it would enable the operator to front-run trades using insider information³⁰³. However, Google codified this conflict into its architecture as it leveraged its position as the auctioneer to feed insider information on rival bids to its own buying tools, effectively rigging the auction before it even began. As the EC's investigations revealed, Google used this information asymmetry to restrict competition. It designed its ad server to share superior data regarding pricing and auctions with exchanges integrating exclusively via Google's Open Bidding system³⁰⁴. While Google technically could have shared this data with competing technologies, Google withheld this information to push the market into abandoning alternative systems and integrate through Google's own ecosystem to survive³⁰⁵. Ultimately, this is not competition on the merits but the rigging of the market structure.

In its June 2023 Statement of Objections, the EC would demonstrate some promising foresight. It specifically concluded that behavioral remedies would be inefficient because the conflict of interest was inherent to Google's vertical integration. Thus, after years of failed enforcement action, the EC declared that mandatory divestiture (breaking the buy-side from the sell-side) would be the only way to restore competition³⁰⁶. Subsequently, this created massive expectation among researchers and advocacy groups that the EU was finally willing to prioritize market structure over conduct regulation. However, the final ruling in September 2025 signaled a collapse of this resolve. Despite its own warnings in its initial Statement of Objections two years prior, the EC retreated to its classic toolkit and issued a €2.95 billion fine, combined with a behavioral order to cease self-preferencing³⁰⁷.

³⁰³ Dina Srinivasan, 'Why Google Dominates Advertising Markets: Competition Policy Should Lean on the Principles of Financial Market Regulation' (2020) 24(1) Stanford Technology Law Review 55 <<https://law.stanford.edu/publications/why-google-dominates-advertising-markets/>> accessed 29 December 2025, 59-60.

³⁰⁴ Google, 'Introduction to Open Bidding' (Google Ad Manager Help) <<https://support.google.com/admanager/answer/7128453?hl=en>> accessed 8 December 2025.

³⁰⁵ Srinivasan (n 303) 140 n 203.

³⁰⁶ European Commission, 'Antitrust: Commission Opens Investigation into Google's Position in the Online Advertising Technology Supply Chain' (Press Release, 25 September 2023) <https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3207> accessed 2 December 2025.

³⁰⁷ European Commission, 'Commission Fines Google €2.95 Billion over Abusive Practices in Online Advertising Technology' (Press Release, 5 September 2025) <https://ec.europa.eu/commission/presscorner/detail/en/ip_25_1992> accessed 8 December 2025.

When drawing parallels with financial penalties, the inadequacy of this fine becomes stunning. For a company that authorized \$70 billion in stock buybacks in the first quarter of 2024 alone, a €3 billion fine represents roughly 4% of what the company voluntarily spent to repurchase its own shares³⁰⁸. By abandoning divestiture, the EC implicitly accepted that the structural conflict it correctly identified would remain, only promising to police it more strictly³⁰⁹.

The hollowness of the decision was exposed by the remedy phase. Google was granted a sixty-day window by the EC to propose a compliance package to remove the conflict without a breakup. Google, predictably, as it was given a choice, proposed enhanced interoperability and specifically offered a feature allowing publishers to set individual pricing floors for different bidders when using Google's tools³¹⁰.

This offer was a calculated deflection on Google's part. By focusing on interoperability, Google wanted to solve a structural conflict with a technical tweak. Advocacy groups, like the European Publishers Council (EPC), immediately rejected this proposal as insufficient. They argued that accepting Google's offer would disregard the EC's own findings. As long as Google owned the data feedback loop across the entire stack, Google would retain the ability to steer traffic and leverage its zero-price consumer platforms (e.g. YouTube, Search) to monetize ads exclusively through its own channels³¹¹.

Offering enhanced interoperability to a rigged exchange does not fix the problem: it only allows competitors to connect more easily. The EPC warned that these behavioral fixes would only lead to misleadingly positive impressions without fundamentally altering the substance of Google's dominance³¹².

Furthermore, the behavioral remedy does not account for the technical reality of modern ad tech: the shift to AI-driven black boxes. Google's tools like Performance Max and Smart Bidding use

³⁰⁸ Alphabet Inc 'Alphabet Announces First Quarter 2024 Results' (n 289).

³⁰⁹ European Commission 'Antitrust: Commission Opens Investigation into Google' (n 306).

³¹⁰ Google, 'Our Response to the European Commission's Decision on Ad Tech' (Google Blog, 14 November 2025) <<https://blog.google/around-the-globe/google-europe/european-commission-ad-tech-response/>> accessed 8 December 2025.

³¹¹ European Publishers Council, 'European Commission Publishes Their Decision on the Google Ad Tech Investigation: EPC Calls for Stronger Action' (5 September 2025) <<https://www.epceurope.eu/post/european-commission-publishes-their-decision-on-the-google-ad-tech-investigation-epc-calls-for-stronger-action>> accessed 2 December 2025.

³¹² Open Markets Institute, 'Open Markets Condemns Google's Paltry AdTech Remedies in the EU Case' (17 November 2025) <<https://www.openmarketsinstitute.org/publications/paltry-adtech-remedies-in-the-eu-case>> accessed 8 December 2025.

machine learning to optimize ad delivery across channels automatically³¹³³¹⁴. These tools create an enforcement nightmare. Because the AI is trained on Google’s proprietary data and incentivized to maximize Google’s profit, the algorithm automatically favors Google’s inventory over competitors’ exchanges without explicit human intervention. As the Turkish Competition Authority noted in its own parallel investigation, these tools allow Google to steer traffic in ways that are barely visible to external auditors. Thus, the inherent problem is that one cannot order an algorithm to remain fair when it is trained on a decade of monopolistic data. Therefore, a behavioral remedy requiring fairness is unenforceable against a system that optimizes self-preference by default³¹⁵.

The most evident proof of this regulatory failure came just weeks after the final ruling. In December 2025, the EC opened a new investigation into Google’s use of publisher data to train its AI models without compensation³¹⁶. This development confirms the “whack-a-mole” nature of behavioral enforcement. While regulators spent years investigating and debating display ads, Google leveraged the exact same structural advantage elsewhere; it leveraged its control over publisher data to pivot monopoly into GenAI. By failing to break the Ad Tech stack in September, the EC left the infrastructure intact for Google to capture the AI market in December.

The EC’s tacit admission that a new investigation is required demonstrates that the Ad Tech remedies were obsolete before the year even ended. It proves that Google’s capability to harvest data from one side of its infrastructure to train its AI on the other establishes a self-reinforcing benefit that enhanced interoperability is not going to cure. The EU case, therefore, does not stand as a victory. It functions as a reminder that without structural separation, enforcement will always play catch-up.

³¹³ Google, ‘About Performance Max Campaigns’ (Google Ads Help) <<https://support.google.com/google-ads/answer/10724817?hl=en>> accessed 2 December 2025.

³¹⁴ Google, ‘About Smart Bidding’ (Google Ads Help) <<https://support.google.com/google-ads/answer/7065882?hl=en>> accessed 2 December 2025.

³¹⁵ Turkish Competition Authority, ‘A Decision to Open an Investigation on the Advertisement Technologies of Economic Integrity Including Google Reklamcılık ve Pazarlama Ltd. Şti.’ (20 June 2025) <<https://www.rekabet.gov.tr/en/Guncel/a-decision-to-open-an-investigation-on-t-074eec6bb44df01193e80050568585c9>> accessed 8 December 2025.

³¹⁶ European Commission, ‘Commission Opens Investigation into Possible Anticompetitive Conduct by Google in the Use of Online Content for AI Purposes’ (Press Release, 9 December 2025) <https://ec.europa.eu/commission/presscorner/detail/en/ip_25_2964> accessed 22 December 2025.

4.4.2. The US Google Search Case

If the EU experience shows the failure of behavioral remedies to cure internal conflicts of interest, the US experience illustrates the failure of the legal system to address external foreclosure. For many years, the US remained dormant, paralyzed by a regulatory philosophy that was dominated by the fear of false positives (over-enforcement) over the risk of unchecked monopoly power³¹⁷. This allowed the EU to function as the world's regulatory policeman through the Brussels Effect, setting standards that firms all over the world followed while US agencies remained on the sidelines³¹⁸. A prominent example for an addressee of continuous EU scrutiny is Google, who has been under EU scrutiny for fifteen years, which has triggered a worldwide wave of copycat litigation instances³¹⁹.

The 2020s signaled the end of this dormancy. Driven by a shift in enforcement philosophy (expressed by FTC Chair Lina Khan and DOJ Antitrust Chief Jonathan Kanter), the US moved from observing to aggressive litigation. The end of this lenient oversight was famously declared by Kanter who rejected the static consumer welfare models that had historically protected Big Tech in favor of a robust defense of competitive markets³²⁰.

This shift culminated in the *United States v. Google* case, which focused on external foreclosure and on the importance of data. More specifically, it focused on exclusionary contracts Google utilized to lock up distribution channels and lock out rivals from entering the market entirely³²¹. This stood in direct contrast with the EU's Ad Tech case, which focused on Google's internal manipulation of its own stack, thus, self-preferencing.

The DOJ's complaint identified a simple but devastating fact: Google effectively stopped competing on the merits of its search engine and bought the market instead. In violation of Section 2 of the Sherman Act, Google paid billions of dollars to distributors, most notably Apple and Samsung. Through this mechanism, Google was able to secure itself default status for its search engine³²².

³¹⁷ Anu Bradford, 'Market Competition' in *The Brussels Effect: How the European Union Rules the World* (Oxford University Press 2020) <<https://doi-org.uaccess.univie.ac.at/10.1093/oso/9780190088583.003.0005>> accessed 8 December 2025, 102.

³¹⁸ Ibid 114.

³¹⁹ Ibid 125.

³²⁰ Rolnik Guy, Shaul Asher and Fox Brooke, 'DOJ Antitrust Head Jonathan Kanter: "We Are Making It Very Clear: We're Going to Hold Individuals Accountable"' ProMarket (28 April 2022) <<https://www.promarket.org/2022/04/28/kanter-interview-antitrust-consumer-welfare-criminal-individuals/>> accessed 10 December 2025.

³²¹ US Department of Justice, 'Justice Department Sues Monopolist Google for Violating Antitrust Laws' (Press Release, 20 October 2020) <<https://www.justice.gov/archives/opa/pr/justice-department-sues-monopolist-google-violating-antitrust-laws>> accessed 10 December 2025.

³²² *United States v Google LLC* (Complaint) (n 154), paras 14 & 112-115.

These were not just marketing agreements but rather golden handcuffs. The DOJ revealed that Google paid Apple approx. \$22 billion in 2022 alone to secure itself the position as the exclusive default search engine on Apple's Safari³²³, nearly covering fifty percent of all mobile device usage in the US³²⁴. Google attempted to defend its business practices through a cereal aisle analogy, according to which a cereal brand pays a supermarket for eye-level shelf space to increase its visibility. Accordingly, Google argued that it was not bidding for exclusivity, but merely for prominence³²⁵.

However, the court dismantled this defense by identifying the unique economics of digital markets. Google did not merely acquire itself the most optimal eye-level shelf place, but it also bought the exclusive right to learn from the market. In the digital economy, competitors benefit from scale to train their own algorithms because user queries are the raw material necessary to refine algorithms. As revealed during the trial, the tech giant's governing philosophy was not of competition for distribution, but instead of paying revenue share in return for exclusivity³²⁶ which is in direct conflict with Google's supermarket analogy: In a supermarket, brands pay for better shelf spaces, but they do not request to have all other brands removed from the aisle. In other words: Unlike cereal, where a consumer buys a specific brand (e.g. Kelloggs), this does not prevent other cereal brands from improving their recipes³²⁷.

Competitors need scale to train their algorithms, and user queries are the raw material of quality. By locking up the default position, Google did not just buy itself shelf space, it bought itself the exclusive right to learn from the market³²⁸. As Microsoft CEO Satya Nadella testified, this established a data feedback loop that starved competitors of the query volume required to compete. Thus, Google's dominance was self-reinforcing; more data equaled better algorithms, which justified the default, which generated more data. Competitors like Bing could never overcome these gaps even after investing billions of dollars, because they were contractually blocked from the data stream³²⁹. Consequently, the revenue share payments were not a commercial exchange, but merely a penalty for openness. If Apple had offered its users a choice screen, Google would have stopped its payments entirely.

³²³ *United States v Google LLC*, No 1:20-cv-03010 (DDC, 5 August 2024), 241.

³²⁴ *United States v Google LLC* (Complaint) (n 154), para 46.

³²⁵ Kent Walker, 'A Deeply Flawed Lawsuit That Would Do Nothing to Help Consumers' (The Keyword, 20 October 2020) <<https://blog.google/outreach-initiatives/public-policy/response-doj/>> accessed 16 December 2025.

³²⁶ *United States v Google LLC* (5 August 2024) (n 323) 212.

³²⁷ *United States v Google LLC* (5 August 2024) (n 323) 212 and 109-110.

³²⁸ *United States v Google LLC* (Complaint) (n 154) paras 8 & 85.

³²⁹ Novet (n 229).

In August 2024, the court delivered a landmark verdict: “Google is a monopolist, and it has acted as one to maintain its monopoly.”³³⁰ This ruling marked the shift that the US had finally emerged from the EU’s shadow. Expectations for structural relief skyrocketed as the DOJ had explicitly argued that behavioral remedies would fail because Google’s control over the entry points (Android, Chrome) allowed it to bypass any behavioral remedy. Subsequently, prosecutors demanded a structural breakup, implying the divestiture of Android and Chrome to separate the gatekeeper from the search engine³³¹.

Furthermore, to prevent the tech giant from monopolizing the next era of search, the DOJ demanded data-sharing mandates and opt-out rights for websites to prevent their content from being used to train Google’s AI models without compensation³³².

However, during the remedy phase, the initial narrative of a history victory collapsed. When the final ruling was issued in September 2025, the court rejected the structural demands issued by the DOJ. Despite finding Google liable for monopolization, it refused to order the divestiture of Android or Chrome³³³. The court reasoned that a breakup would be disproportionate and could harm consumer welfare by degrading the quality of Chrome, which depends on Google’s integrated ecosystem³³⁴.

Instead, the court settled for behavioral remedies by prohibiting Google from entering into exclusive distribution agreements³³⁵. While this sounds significant, it contains a loophole that could easily be exploited. The ruling allows Google to continue paying Apple for prominence as long as the contract is not explicitly exclusive. In practice, this means that Google can still outbid every other competitor for a default position, effectively maintaining the status quo through its massive financial advantages. In regards to the AI transition, the court ordered Google to share some query data to assist competitors but stopped short of the full structural separation necessary to prevent data hoarding³³⁶.

³³⁰ *United States v Google LLC* (5 August 2024) (n 323) 4.

³³¹ *United States v Google LLC*, No 1:20-cv-03010 (DDC, 8 October 2024), (Plaintiffs’ Proposed Remedy Framework), 6.

³³² *Ibid* 7-8.

³³³ *United States v Google LLC*, No 1:20-cv-03010 (D.D.C., 2 September 2025) (Memorandum Opinion), 4.

³³⁴ *Ibid* 115-117.

³³⁵ *Ibid* 3.

³³⁶ *Ibid* 4.

The result of US Search case mirrors the result of the EU Ad Tech case. In both jurisdictions, regulators successfully demonstrate that the dominant platform had manipulated the market structure; in Europe through conflicting roles in the Ad Stack, and in the United States through exclusionary agreements. However, in both cases, the legal system fell short of the necessary solution. By denying divestiture in favor of policing agreements, the US and the EU have addressed the method of dominance correctly without addressing the sources of it.

Conclusion

Can existing competition law and regulatory tools efficiently diagnose and remedy market power in digital markets dominated by Big Tech?

The comparative analysis of EU and US enforcement leads to a nuanced but critical finding. The legal systems on both sides of the Atlantic have developed to diagnose the problem successfully. Both jurisdictions have moved beyond static price-centric theories to correctly identify that platform dominance is driven by scale, network effects, and (algorithmic) self-preferencing. Regulators now acknowledge that in zero-price markets, the currency of power is data, and access to that data is the fundamental barrier to entry. However, while the diagnosis seems accurate, the remedies remain fundamentally ineffective. As the Google case studies demonstrated, traditional tools are failing to remove the fundamental conflicts of interest that entrench monopoly power. By diagnosing a structural disease (e.g. monopoly by integration) but prescribing behavioral cures (e.g. conduct rules, interoperability mandates), regulators are replacing entrenched monopoly with regulated monopoly.

The year 2025 marked a very important moment in global antitrust history, offering a unique opportunity to compare how the most powerful regulatory frameworks tackled the same dominant actor. While the EU focused on internal manipulation, the US focused on external foreclosure. Yet, the divergence in their enforcement strategies reveals the restrictions of the current antitrust toolkit.

The US: Managing the Monopoly

In the US, the enforcement shift led by the DOJ marked a departure from decades of dormancy. The court's liability ruling in the Google Search case was historic, acknowledging that Google maintained a monopoly not by superior product design, but by refusing rivals the query volume required

to train their algorithms. Yet, in the remedy phase, the court retreated to a framework of behavioral constraints. It rejected the DOJ's demand for divestiture, operating under a philosophy of judicial humility and deference to market dynamism found in the *Trinko* doctrine.

The remedies, mandating data sharing and banning exclusive contracts, are insufficient to restore competition. The court's ban on exclusive default positions does not limit Google from paying for non-exclusive status. The court operated under the assumption that banning all payments would harm partners like Mozilla financially, who depend on Google's revenue stream³³⁷. However, this neglects the economic reality. Given that Google can monetize search better than any rival due to its data advantage, it is economically more rational for partners to reject lower offers from competitors. Subsequently, the default status will likely stay exactly where it is, as partners lack the commercial incentive to switch.

Furthermore, the remedies leave Google's vertically integrated structure intact and harmful. As long as the entry points (Chrome and Android) remain under Google's control and ownership, the tech giant retains the technical autonomy to shape the user experience. It can fine-tune internal policies and algorithms in ways that technically comply with the court's decision while effectively steering users back to its own ecosystem. This puts rivals at risk where invisible design choices replace explicit contracts as the mechanism of exclusion.

The EU: The Fear of Over-Correction

In comparison, the EC's handling of the Ad Tech case reflects a similar hesitation. The EC specifically stated that behavioral remedies would not suffice to cure the damage caused by Google, acknowledging that the fundamental conflict of interest (acting as both the bidder and auctioneer) is unresolvable without structural separation. Nonetheless, despite this significant diagnosis, the EC has only imposed a substantial fine and demanded for Google to come up with a plan to resolve this inherent conflict of interest³³⁸.

This divergence in enforcement strategies suggests a significant difference in how future market shifts are weighed against current structural imbalances. The US court's restraint reflects a fear of

³³⁷ *United States v Google LLC* (Plaintiffs' Proposed Remedy Framework) (n 331) 123-124.

³³⁸ European Commission, 'Statement by Executive Vice-President Margrethe Vestager on Commission's Antitrust Investigations' (Statement/25/2034, 5 September 2025) <http://ec.europa.eu/commission/presscorner/detail/en/statement_25_2034> accessed 17 December 2025.

inefficient regulation, specifically highlighting the fact that a structural separation of Chrome might be too risky and disruptive to consumer welfare³³⁹. The EC, conversely, fears the consequences of leaving the infrastructure intact. Yet, in one of the most important moments of EU antitrust, the EC has – similarly to the US – not pulled the trigger on a structural breakup, which leaves the underlying infrastructure unchanged.

Consequently, this failure cannot be attributed to the specific characteristics of Google as the investigated firm. Because the target is the same in both jurisdictions, the divergence in result is not a function of corporate behavior, but of the limitations of the enforcement tools themselves. Google has successfully navigated the regulatory landscape to keep its ecosystem intact on both sides of the Atlantic. This suggests that without a unified commitment to structural fixes, global enforcement will stay fragmented and easily managed by multinational giants.

The Business Cost of Behavioral Remedies

The synthesis of these cases confirms the warnings of scholars like Mark Lemley who argue that penalties that do not alter market structure are nothing more than business costs³⁴⁰. By taking structural separation off the table, the courts have unwillingly taught dominant companies that the worst-case scenario for unlawful monopolization is a behavioral remedy. If the consequences of years of anticompetitive conduct result only in narrowed data-sharing mandates, and ex-post contract revisions, there is really no genuine deterrent against potential monopolization. Thus, dominant companies can write off these sanctions as operating expenses, like a licensing fee for monopoly maintenance, while the average consumer remains unaware of this.

The Innovation Myth

A recurring topic in Google's defense was that GenAI would naturally disrupt the traditional search market, rendering heavy-handed antitrust intervention obsolete. The US court largely accepted this argument, acknowledging AI as a potential game changer and concluding that competing companies are better equipped to compete with Google now than in prior decades³⁴¹. However, the court's assumption that AI will disrupt Google's monopoly neglects the fact that data scale is the primary

³³⁹ *United States v Google LLC* (Memorandum Opinion) (n 333) 116.

³⁴⁰ Mark Lemley, 'Competition Law Won't Break Up Big Tech' *Financial Times* (8 September 2025) <<https://www.ft.com/content/7907b200-971c-4169-a982-ba07f5bd22e4>> accessed 17 December 2025.

³⁴¹ *United States v Google LLC* (Memorandum Opinion) (n 333) 128.

input for AI. Consequently, the mandated data sharing is noticeably narrow and limited to a single instance to prevent free-riding³⁴². This struggles to level the playing field because Google has decades of historical user behavior data that cannot be replicated by giving competitors access to a snapshot of current queries. Furthermore, the exemption of sensitive user-specific metrics and ranking data ensures that the black box stays closed³⁴³.

To the contrary, it is precisely because we are entering the era of GenAI that structural remedies were required. By failing to break the data feedback loop now, the court has given Google permission to leverage its unlawful search monopoly to capture the AI market. As competitors struggle to enter the market, Google has already deployed its AI models Gemini and AI Overviews, utilizing the very data advantage the court did not eliminate. The court's "wait and see" approach is not an act of caution, but rather a decision that will allow dominance in the next technological era be cemented before it begins.

Final Words

Antitrust policy needs to evolve beyond the fear of breaking infrastructure. Penalties need to exceed the benefits of infringement because, currently, fines are absorbed as mere operating costs. Remedies need to target the source of the profit (the underlying infrastructure) rather than the symptom (the behavior). When there is a conflict of interest inherent to the business model, as in the EU Ad Tech case, behavioral remedies should be presumed inefficient. In these instances, structural remedies must be the default remedy to align incentives. Mandates to share data must be treated with doubt unless supported by real-time robust technical access that reflects the incumbent's own abilities. This cannot be achieved through "enhanced" interoperability in the hands of the incumbent's own discretion.

Ultimately, the law has successfully caught up to the economics of digital platforms, however, the remedies have not. We are correctly diagnosing the structural diagnoses but prescribing behavioral cures will leave the patient intact. Without enforcement that matches the scale of the abuses, Big Tech companies will continue to exploit loopholes and bypass obligations³⁴⁴. Unless regulators

³⁴² Ibid 4 & 146.

³⁴³ Lemley 'Competition Law Won't Break Up Big Tech' (n 340).

³⁴⁴ European Publishers Council 'EPC Calls for Stronger Action' (n 311).

have the courage to impose structural separations, the gap between the diagnosis of harm and the restoration of competition will remain wide and open.

Therefore, my verdict is as follows: While both jurisdictions have successfully evolved to diagnose digital harm, they remain ineffective at remedying it – the reliance on behavioral remedies for structural problems has left the underlying monopolies intact. The legal frameworks must shift from a focus on ex-post punishment and behavior management to a focus on structural restoration. However, without the power and will to impose divestiture or functional separations, the law will never be able to keep pace with markets that tip towards dominance.

I believe that we can adapt to technological speed without harming innovation. The hesitation to intervene, incentivized by the fear of stifling innovation, is based on a false premise. As the case studies have demonstrated, it is regulatory inaction that allows incumbents to foreclose the next generation of innovation. There is no doubt that history will repeat itself for the next eras to come if we do not learn from our past mistakes. Therefore, rigorous enforcement does not restrict the market. In fact, it liberates necessary space for the next generation of competitors to rise.

Bibliography

1. Table of Legislation

1.1. Treaties and International Instruments

Charter of Fundamental Rights of the European Union [2012] OJ C 326/391

Consolidated Version of the Treaty on the Functioning of the European Union [2012] OJ C326/47

1.2. European Union Legislation

Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty [2003] OJ L1/1

Directive (EU) 2019/770 of the European Parliament and of the Council of 20 May 2019 on certain aspects concerning contracts for the supply of digital content and digital services [2019] OJ L 136/1

Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) [2016] OJ L 119/1

Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on Contestable and Fair Markets in the Digital Sector and Amending Directives (EU) 2019/1937 and (EU) 2020/1828 [2022] OJ L265/1

Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonized rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act) [2024] OJ L 202/1

1.3. US Legislation

Algorithmic Accountability Act of 2022, S 3572, 117th Cong (2022)

American Innovation and Choice Online Act, S 2992, 117th Cong

Clayton Act 1914, 15 USC § 18

Federal Trade Commission Act 1914, 15 USC § 45

Open App Markets Act, S 2153, 119th Cong (2025)

Sherman Antitrust Act 1890, 15 USC § 2

1.4. National Legislation (Other)

Ninth Amendment to the Act Against Restraints of Competition of 1 June 2017, Bundesgesetzblatt, Year 2017, Part 1, No 33 (Germany)

2. Table of Cases

2.1. European Union

Case C-62/86 *AKZO Chemie BV v Commission of the European Communities* [1991] ECR I-3359

Case AT.40437 *Apple – App Store Practices (Music Streaming)* C(2024) 1307 final (4 March 2024)

Case C-117/20 *bpost SA v Autorité belge de la concurrence* ECLI:EU:C:2022:202

Opinion of AG Bobek in Case C-117/20 *bpost SA v Autorité belge de la concurrence*
ECLI:EU:C:2021:680

Case T-79/12 *Cisco Systems Inc. and Messagenet SpA v Commission* ECLI:EU:T:2013:635

Case AT.40153 *E-Book MFNs and Related Matters (Amazon)* (Decision of 4 May 2017)

Case COMP/M.7217 *Facebook/WhatsApp* (Decision of 3 October 2014)

Case T-604/18 *Google and Alphabet v Commission* ECLI:EU:T:2022:541

Case T-612/17 *Google and Alphabet v European Commission* ECLI:EU:T:2021:763

Case AT.39740 *Google Search (Shopping)* C(2017) 4444 final (27 June 2017)

Case 85/76 *Hoffmann-La Roche & Co. AG v Commission* [1979] ECR 461

Case C-413/14 P *Intel Corp v European Commission* ECLI:EU:C:2017:632

Case IV/M.1574 *Kirch/Mediaset* (Decision of 3 August 1999)

Case C-252/21 *Meta Platforms Inc. v Bundeskartellamt* ECLI:EU:C:2023:537

Case M.8124 *Microsoft/LinkedIn* (Decision of 6 December 2016)

Case 322/81 *NV Nederlandsche Banden Industrie Michelin v Commission of the European Communities* [1983] ECR 3461

Case C-377/20 *Servizio Elettrico Nazionale SpA* ECLI:EU:C:2022:379

Case 27/76 *United Brands Company and United Brands Continentaal BV v Commission of the European Communities* [1978] ECR 207

2.2. United States

Cornish-Adebiyi v Caesars Entertainment Inc, No 1:23-cv-02536 (DNJ, 28 March 2024) (Statement of Interest of the United States)

Epic Games, Inc. v Apple Inc., No 4:20-cv-05640-YGR-TSH (ND Cal, 7 April 2020) (Proposed Findings of Fact and Conclusions of Law of Epic Games)

Federal Trade Commission v Facebook, Inc., 560 F Supp 3d 1, 22 (D.D.C. 2021)

Federal Trade Commission v Facebook, Inc., Case No 1:20-cv-03590 (D.D.C., 13 January 2021) (Complaint)

Kinderstart.com LLC v Google Inc., No C 06-2057 JF, 2007 WL 831806 (ND Cal 16 March 2007)

Ohio v American Express Co., 138 S Ct 2274 (2018)

Reiter v Sonotone Corp., 442 US 330 (1979)

Spectrum Sports, Inc. v McQuillan, 506 U.S. 447 (1993)

State of Texas et al v Google LLC, Case No 4:20-cv-00957 (E.D. Tex, 16 December 2020) (Complaint)

United States v Apple Inc., No 2:24-cv-04055 (D.N.J., 21 March 2024) (Complaint)

United States v Google LLC, No 1:20-cv-03010 (D.D.C., 20 October 2020) (Complaint)

United States v Google LLC, No 1:23-cv-00108 (E.D. Va, 24 January 2023) (Complaint)

United States v Google LLC, No 1:20-cv-03010 (DDC, 5 August 2024)

United States v Google LLC, No 1:20-cv-03010 (DDC, 8 October 2024) (Plaintiffs' Proposed Remedy Framework)

United States v Google LLC, No 1:20-cv-03010 (D.D.C., 2 September 2025) (Memorandum Opinion)

United States v Grinnell Corp., 384 US 563 (1966)

United States v Microsoft Corp., 253 F 3d 34 (D.C. Cir. 2001)

United States v Topco Associates, Inc., 405 US 596 (1972)

United States v Von's Grocery Co., 384 US 270 (1966)

Verizon Communications Inc. v Law Offices of Curtis V Trinko, LLP, 540 US 398 (2004)

2.3. National Cases (Other)

Autorité de la concurrence, *Décision 21-D-07* (17 March 2021) (France)

Bundesgerichtshof, *Facebook*, KVR 69/19 (23 June 2020) (Germany)

Bundeskartellamt, *Facebook*, Decision B6-22/16 (6 February 2019) (Germany)

Düsseldorf Higher Regional Court, *HRS*, VI-Kart 1/14 (V) (9 January 2015) (Germany)

3. Books

Almada M, 'The EU AI Act in a Global Perspective' in Markus Furendal and Magnus Lundgren (eds), *Handbook on the Global Governance of AI* (Edward Elgar 2025, forthcoming)
<https://ssrn.com/abstract=5083993> accessed 4 September 2025

Bradford A, 'Market Competition' in *The Brussels Effect: How the European Union Rules the World* (Oxford University Press 2020) <<https://doi-org.uaccess.univie.ac.at/10.1093/oso/9780190088583.003.0005>> accessed 8 December 2025

Ezrachi A and Stucke ME, *Virtual Competition: The Promise and Perils of the Algorithm-Driven Economy* (Harvard University Press 2016) <<https://www.jstor.org/stable/j.ctv24w63h3>> accessed 20 December 2025

Pasquale F, *The Black Box Society: The Secret Algorithms That Control Money and Information* (Harvard University Press 2015) <<https://www.jstor.org/stable/j.ctt13x0hch>> accessed 20 December 2025

4. Journal articles

Andreangeli A, ‘Platform markets, dominance issues and single- and multi-homing of merchants: A real or hypothetical choice?’ (2021) 17 (2) *European Competition Journal* 269 <<https://www-tandfonline-com.uaccess.univie.ac.at/doi/pdf/10.1080/17441056.2021.1872928?needAccess=true>> accessed 5 December 2025

Bork RH and Sidak JG, ‘What Does the Chicago School Teach about Internet Search and the Anti-trust Treatment of Google?’ (2012) 8(4) *Journal of Competition Law & Economics* 663 <<https://heinonline-org.uaccess.univie.ac.at/HOL/SelectPage?handle=hein.journals/jrcolaec8&collection=journals&page=663&lname=>> accessed 17 November 2025

Floridi L, ‘The fight for digital sovereignty: What it is, and why it matters, especially for the EU’ (2020) 33 *Philosophy & Technology* 369 <<https://link.springer.com/article/10.1007/s13347-020-00423-6>> accessed 29 September 2025

Gal MS and Lynskey O, ‘Synthetic Data: Legal Implications of the Data-Generation Revolution’ (2023) 109 *Iowa Law Review* <<https://ssrn.com/abstract=4414385>> accessed 2 December 2025

Geradin D and Katsifis D, ‘Strengthening effective antitrust enforcement in digital platform markets’ (18 October 2021) <<https://ssrn.com/abstract=3940766>> accessed 21 September 2025

Khan L, ‘Amazon’s Antitrust Paradox’ (2017) 126 *Yale Law Journal* 710 <<https://yalelawjournal.org/note/amazons-antitrust-paradox>> accessed 17 September 2025

Makridis CA and Thayer J, ‘The Big Tech Antitrust Paradox: A Reevaluation of the Consumer Welfare Standard for Digital Markets’ (6 February 2024) 27 *Stanford Technology Law Review* 71 <<https://ssrn.com/abstract=4512410>> accessed 29 November 2025

Marsden CT and Brown I, 'App Stores, Antitrust and Their Links to Net Neutrality: A Review of the European Policy and Academic Debate Leading to the EU Digital Markets Act' (2023) 12(1) Internet Policy Review 2 < <https://ssrn.com/abstract=4361872>> accessed 23 December 2025

Newman JM, 'Antitrust in Zero-Price Markets: Foundations' (2015) 164 University of Pennsylvania Law Review 149 < <https://ssrn.com/abstract=2474874>> accessed 4 November 2025

Srinivasan D, 'Why Google Dominates Advertising Markets: Competition Policy Should Lean on the Principles of Financial Market Regulation' (2020) 24(1) Stanford Technology Law Review 55 < <https://law.stanford.edu/publications/why-google-dominates-advertising-markets/>> accessed 29 December 2025

5. Reports and Official Publications

Alphabet Inc, *Form 10-K for the Fiscal Year Ended December 31, 2024* (US Securities and Exchange Commission, 2025), <<https://www.sec.gov/Archives/edgar/data/1652044/000165204425000014/goog-20241231.htm>> accessed 02.01.2026

Brin S and Page L, *The Anatomy of a Large-Scale Hypertextual Web Search Engine* (Computer Science Department, Stanford University 1998) <<http://infolab.stanford.edu/~backrub/google.html>> accessed 28 December 2025

Bundeskartellamt and Autorité de la concurrence, *Competition Law and Data* (10 May 2016) <<https://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.html%20accessed%2022%E2%80%AFDecember%E2%80%AF2025>> accessed December 2025

Competition and Markets Authority, *AI Foundation Models: Initial Report* (September 2023) <<https://www.gov.uk/government/publications/ai-foundation-models-initial-report>> accessed 20 December 2025

Competition and Markets Authority, *AI Foundation Models: Update Paper* (April 2024) <<https://www.gov.uk/government/publications/ai-foundation-models-update-paper>> accessed 20 December 2025

Cooper JC, Wright JD and Yun JM, ‘Testimony on the “State of Competition in the Digital Marketplace” before the US House of Representatives, Committee on the Judiciary, Subcommittee on Antitrust, Commercial, and Administrative Law’ (24 April 2020) George Mason Law & Economics Research Paper No 20-13 <<https://ssrn.com/abstract=3584629>> accessed 16 October 2025

Dessemond EG, *Restoring Competition in “Winner-Took-All” Digital Platform Markets* (20 January 2020) UNCTAD Research Paper No 40 <https://digital-markets-act.ec.europa.eu/high-level-group-digital-markets-act-public-statement-artificial-intelligence-2024-05-22_en> accessed 30 December 2025

Directorate-General for Competition and Directorate-General for Communications Networks, Content and Technology, ‘High-Level Group for the Digital Markets Act Public Statement on Artificial Intelligence’ (Statement, 22 May 2024) <https://digital-markets-act.ec.europa.eu/high-level-group-digital-markets-act-public-statement-artificial-intelligence-2024-05-22_en> accessed 17 October 2025

European Centre for International Political Economy, *EU Export of Regulatory Overreach: The Case of the Digital Markets Act (DMA)*, ECIPE Policy Brief No 08/2025 <https://digital-markets-act.ec.europa.eu/gatekeepers_en> accessed 20 November 2025

European Commission, ‘Competition in Generative AI and Virtual Worlds’ (18 September 2024) Competition Policy Brief Issue 3 <https://competition-policy.ec.europa.eu/document/download/c86d461f-062e-4dde-a662-15228d6ca385_en> accessed 26 November 2025

European Commission, ‘Guidance on the Commission’s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings’ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=oj:JOC_2009_045_R_0007_01> accessed 11 October 2025

European Parliament, *Generative AI and Copyright: Legal and Policy Challenges* (Study for the Committee on Legal Affairs, 2023) <[https://www.europarl.europa.eu/thinktank/en/document/IUST_STU\(2025\)774095](https://www.europarl.europa.eu/thinktank/en/document/IUST_STU(2025)774095)> accessed 4 December 2025

Executive Order No 13859, 84 FR 3967 (11 February 2019) <<https://www.federalregister.gov/documents/2019/02/14/2019-02544/maintaining-american-leadership-in-artificial-intelligence>> accessed 5 January 2026

Federal Trade Commission, *Policy Statement Regarding the Scope of Unfair Methods of Competition Under Section 5 of the Federal Trade Commission Act* (November 2022) <<https://www.ftc.gov/legal-library/browse/policy-statement-regarding-scope-unfair-methods-competition-under-section-5-federal-trade-commission>> accessed 27 December 2025

Federal Trade Commission, *Statement of the Federal Trade Commission Regarding Google's Search Practices, In the Matter of Google Inc.*, FTC File No 111-0163 (3 January 2013) <<https://www.ftc.gov/legal-library/browse/cases-proceedings/public-statements/statement-federal-trade-commission-regarding-googles-search-practices-matter-google-inc>> accessed 11 December 2025

Federal Trade Commission and others, 'Joint Statement on Enforcement Efforts Against Discrimination and Bias in Automated Systems' (25 April 2023) <<https://www.ftc.gov/legal-library/browse/cases-proceedings/public-statements/joint-statement-enforcement-efforts-against-discrimination-bias-automated-systems>> accessed 10 December 2025

Filistrucchi L, Geradin D, van Damme EEC and Affeldt P, *Market Definition in Two-Sided Markets: Theory and Practice* (16 March 2013) TILEC Discussion Paper No 2013-009 <<https://ssrn.com/abstract=2240850>> accessed 2 December 2025

Harris L., *Artificial Intelligence: Overview, Recent Advances, and Considerations for the 118th Congress* (CRS Report R47644, 4 August 2023) <<https://www.congress.gov/crs-product/R47644>> accessed 30 December 2025

Lindeboom J, 'Towards a Unified Judicial Philosophy of Article 102 TFEU? Servizio Elettrico Nazionale SpA (C-377/20)' (6 June 2022) University of Groningen Faculty of Law Research Paper No 22/2022 <<https://ssrn.com/abstract=4171718>> accessed 15 October 2025

Mitchell SF, 'Testimony before the United States House of Representatives, Committee on the Judiciary, Subcommittee on Antitrust, Commercial and Administrative Law' (16 July 2019)

<<https://www.congress.gov/116/meeting/house/109793/witnesses/HHRG-116-JU05-Wstate-MitchellS-20190716.pdf>> accessed 28 December 2025

National Institute of Standards and Technology, *Artificial Intelligence Risk Management Framework* (AI RMF 1.0) (NIST AI 100-1, 2023) <<https://www.nist.gov/publications/artificial-intelligence-risk-management-framework-ai-rmf-10>> accessed 10 October 2025

OECD, *Artificial Intelligence and Competitive Dynamics in Downstream Markets* (OECD Roundtables on Competition Policy Papers No 331, OECD Publishing 2025) <https://www.oecd.org/en/publications/artificial-intelligence-and-competitive-dynamics-in-downstream-markets_ccf0624a-en.html> accessed 10 December 2025

OECD, *Quality Considerations in the Zero-Price Economy* (Note by the European Union DAF/COMP/WD(2018)135, 23 November 2018) <[https://one.oecd.org/document/DAF/COMP/WD\(2018\)135/en/pdf](https://one.oecd.org/document/DAF/COMP/WD(2018)135/en/pdf)> accessed 20 December 2025

OECD, *Start-Ups, Killer Acquisitions and Merger Control* <https://www.oecd.org/en/publications/start-ups-killer-acquisitions-and-merger-control_dac52a99-en.html> accessed 12 November 2025

OECD, *Summary of Discussion on the Roundtable on Quality Considerations in Zero Price Markets* (DAF/COMP/M(2018)2/ANN7/FINAL, 22 April 2020) <[https://one.oecd.org/document/DAF/COMP/M\(2018\)2/ANN7/FINAL/en/pdf](https://one.oecd.org/document/DAF/COMP/M(2018)2/ANN7/FINAL/en/pdf)> accessed 20 December 2025

Office of Management and Budget, ‘Guidance for Regulation of Artificial Intelligence Applications’ (Memorandum M-21-06, 17 November 2020) <<https://www.whitehouse.gov/wp-content/uploads/2020/11/M-21-06.pdf>> accessed 2 January 2026

Turkish Competition Authority, ‘A Decision to Open an Investigation on the Advertisement Technologies of Economic Integrity Including Google Reklamcılık ve Pazarlama Ltd. Şti.’ (20 June 2025) <<https://www.rekabet.gov.tr/en/Guncel/a-decision-to-open-an-investigation-on-t-074eec6bb44df01193e80050568585c9>> accessed 8 December 2025

US Department of Justice, *Views on S. 2992 and H.R. 3816* (Office of Legislative Affairs, 28 March 2022) <<https://www.justice.gov/jmd/media/1238166/dl?inline>> accessed 3 January 2026

US Department of Justice and Federal Trade Commission, *Vertical Merger Guidelines* (June 2020) <https://www.ftc.gov/system/files/documents/reports/vertical-merger-guidelines-0/vertical_merger_guidelines_6-30-20.pdf> accessed 28 December 2025

US House of Representatives, Committee on the Judiciary, Subcommittee on Antitrust, Commercial and Administrative Law, *Investigation of Competition in Digital Markets* (Majority Staff Report and Recommendations, 2020) <<https://www.govinfo.gov/content/pkg/CPRT-117HPRT47832/pdf/CPRT-117HPRT47832.pdf>> accessed 29 December 2025

Vipra J and Myers West S, *Computational Power and AI* (AI Now Institute, 27 September 2023) <<https://ainowinstitute.org/publications/compute-and-ai>> accessed 01 January 2026

6. Press Releases

Autorité de la concurrence, ‘Advertising on iOS mobile applications: the General Rapporteur confirms having notified the Apple group of an objection’ (Press Release, 27 July 2023) <<https://www.autoritedelaconcurrence.fr/en/press-release/advertising-ios-mobile-applications-general-rapporteur-confirms-having-notified-apple>> accessed 30 December 2025

European Commission, ‘Antitrust: Commission fines Google €1.49 billion for abusive practices in online advertising’ (Press Release, 20 March 2019) <https://ec.europa.eu/commission/presscorner/detail/en/ip_19_1770> accessed 2 December 2025

European Commission, ‘Antitrust: Commission Fines Google €4.34 Billion for Illegal Practices Regarding Android Mobile Devices to Strengthen Dominance of Google’s Search Engine’ (Press Release, 18 July 2018) <https://ec.europa.eu/commission/presscorner/detail/en/ip_18_4581> accessed 2 December 2025

European Commission, ‘Antitrust: Commission Opens Investigation into Google’s Position in the Online Advertising Technology Supply Chain’ (Press Release, 25 September 2023) <https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3207> accessed 2 December 2025

European Commission, ‘Antitrust: Commission Sends Statement of Objections to Apple on App Store Rules for Music Streaming Providers’ (Press Release, 16 June 2020) <https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1073> accessed 16 November 2025

European Commission, ‘Commission Fines Google €2.95 Billion over Abusive Practices in Online Advertising Technology’ (Press Release, 5 September 2025) <https://ec.europa.eu/commission/presscorner/detail/en/ip_25_1992> accessed 8 December 2025

European Commission, ‘Commission Opens Investigation into Possible Anticompetitive Conduct by Google in the Use of Online Content for AI Purposes’ (Press Release, 9 December 2025) <https://ec.europa.eu/commission/presscorner/detail/en/ip_25_2964> accessed 22 December 2025

European Commission, ‘Commission Sends Preliminary Findings to Meta over Its “Pay or Consent” Model for Breach of the Digital Markets Act’ (Press Release, 1 July 2024) <https://ec.europa.eu/commission/presscorner/detail/en/ip_24_3582> accessed December 12 2025

European Commission, ‘Statement by Executive Vice-President Margrethe Vestager on Commission’s Antitrust Investigations’ (Statement/25/2034, 5 September 2025) <http://ec.europa.eu/commission/presscorner/detail/en/statement_25_2034> accessed 17 December 2025

Federal Trade Commission, ‘Federal Trade Commission and Justice Department Release 2023 Merger Guidelines’ (Press Release, 18 December 2023) <<https://www.ftc.gov/news-events/news/press-releases/2023/12/federal-trade-commission-justice-department-release-2023-merger-guidelines>> accessed 29 December 2025

Federal Trade Commission, ‘Federal Trade Commission Withdraws Vertical Merger Guidelines and Commentary’ (Press Release, 15 September 2021) <<https://www.ftc.gov/news-events/news/press-releases/2021/09/federal-trade-commission-withdraws-vertical-merger-guidelines-commentary>> accessed 29 December 2025

Federal Trade Commission, ‘FTC Staff Presents Report on Nearly a Decade of Unreported Acquisitions by the Biggest Technology Companies’ (Press Release, 15 September 2021) <<https://www.ftc.gov/news-events/news/press-releases/2021/09/ftc-staff-presents-report-nearly-decade-unreported-acquisitions-biggest-technology-companies>> accessed 2 December 2025

US Department of Justice, ‘Justice Department Sues Monopolist Google for Violating Antitrust Laws’ (Press Release, 20 October 2020) <<https://www.justice.gov/archives/opa/pr/justice-department-sues-monopolist-google-violating-antitrust-laws>> accessed 10 December 2025

7. Newspaper Articles

Allison I, ‘Google’s Aborted Deals for Wiz, HubSpot Show Antitrust’s Shadow over Tech’ *Bloomberg* (23 July 2024) <<https://www.bloomberg.com/news/articles/2024-07-23/google-s-aborted-deals-for-wiz-hubspot-show-antitrust-s-shadow-over-tech>> accessed 2 December 2025

Bork RH, ‘Antitrust and Google’ *Chicago Tribune* (6 April 2012) <<https://www.chicagotribune.com/2012/04/06/antitrust-and-google-2/>> accessed 2 November 2025

‘EU antitrust regulators want to know if Google and Samsung’s chatbot deal hinders rivals’ *Reuters* (17 July 2024) <<https://www.reuters.com/technology/artificial-intelligence/eu-antitrust-regulators-want-know-if-google-samsungs-chatbot-deal-hinders-rivals-2024-07-17/>> accessed 2 December 2025

‘Google’s Payments to Apple Reached \$20 Billion in 2022, CUE Says’ *Bloomberg News* (1 May 2024) <<https://www.bloomberg.com/news/articles/2024-05-01/google-s-payments-to-apple-reached-20-billion-in-2022-cue-says>> accessed 2 November 2025

‘Google says rival search engines can appear on Android devices in Europe for free’ *Reuters* (8 June 2021) <<https://www.reuters.com/technology/google-says-rival-search-engines-can-appear-android-devices-europe-free-2021-06-08/>> accessed 22 November 2025

Lemley M, ‘Competition Law Won’t Break Up Big Tech’ *Financial Times* (8 September 2025) <<https://www.ft.com/content/7907b200-971c-4169-a982-ba07f5bd22e4>> accessed 17 December 2025

Novet J, ‘Microsoft CEO Nadella testifies about competing with Google in antitrust trial’ *CNBC* (2 October 2023), <<https://www.cnn.com/2023/10/02/microsoft-ceo-testifies-about-competing-with-google-in-antitrust-trial.html>> accessed 16 December 2025

‘Regulators are focusing on real AI risks over theoretical ones’ *The Economist* (22 August 2024) <<https://www.economist.com/leaders/2024/08/22/regulators-are-focusing-on-real-ai-risks-over-theoretical-ones-good>> accessed 25 November 2025

8. Websites, Blogs and Other Online Sources

Congressional Research Service, ‘Federal District Court Rejects the FTC’s Monopolization Case Against Meta Platforms’ LSB11379 (26 November 2025) <https://www.congress.gov/crs_external_products/LSB/HTML/LSB11379.html> accessed 27 December 2025

DuckDuckGo, ‘Submission to the Competition and Markets Authority on its Provisional Decision to Designate Google Search Under the Digital Markets, Competition and Consumers Act’ (Response to Consultation, 20 August 2025) <<https://www.gov.uk/cma-cases/sms-investigation-into-googles-general-search-and-search-advertising-services>> accessed 2 January 2026

European Commission, ‘About the Digital Markets Act (DMA)’ <https://digital-markets-act.ec.europa.eu/about-dma_en> accessed 22 December 2025

European Commission, ‘Gatekeepers’ (Digital Markets Act) <https://digital-markets-act.ec.europa.eu/gatekeepers_en> accessed 20 November 2025

European Publishers Council, ‘European Commission Publishes Their Decision on the Google Ad Tech Investigation: EPC Calls for Stronger Action’ (5 September 2025) <<https://www.epceurope.eu/post/european-commission-publishes-their-decision-on-the-google-ad-tech-investigation-epc-calls-for-stronger-action>> accessed 2 December 2025

Federal Trade Commission, ‘Generative AI raises competition concerns’ (Technology Blog, 29 June 2023) <<https://www.ftc.gov/policy/advocacy-research/tech-at-ftc/2023/06/generative-ai-raises-competition-concerns>> accessed 4 December 2025

Federal Trade Commission, ‘Letter from Jessica L Rich (Director, Bureau of Consumer Protection) to Erin Egan (Chief Privacy Officer, Facebook)’ (27 April 2017) <<https://www.ftc.gov/legal-library/browse/cases-proceedings/staff-letters/letter-jessica-l-rich-director-federal-trade-commission-bureau-consumer-protection-erin-egan-chief>> accessed 29 December 2025

Federal Trade Commission, ‘The Antitrust Laws’ <<https://www.ftc.gov/advice-guidance/competition-guidance/guide-antitrust-laws/antitrust-laws>> accessed 4 October 2025

Google, ‘About Performance Max Campaigns’ (Google Ads Help) <<https://support.google.com/google-ads/answer/10724817?hl=en>> accessed 2 December 2025

Google, ‘About Smart Bidding’ (Google Ads Help) <<https://support.google.com/google-ads/answer/7065882?hl=en>> accessed 2 December 2025

Google, ‘How Does Google Shopping Compare with Other Shopping Sites?’ *Google Shopping Help* <<https://support.google.com/googleshopping/answer/9128904?hl=en#zippy=%2Chow-does-google-shopping-compare-with-other-shopping-sites>> accessed 16 November 2025.

Google, ‘Introduction to Open Bidding’ (Google Ad Manager Help) <<https://support.google.com/admanager/answer/7128453?hl=en>> accessed 8 December 2025

Google, ‘Our Response to the European Commission’s Decision on Ad Tech’ (Google Blog, 14 November 2025) <<https://blog.google/around-the-globe/google-europe/european-commission-ad-tech-response/>> accessed 8 December 2025

Google, ‘Start or join a Google Meet video meeting directly from Gmail’ (Google Workspace Updates, 16 April 2020) <<https://workspaceupdates.googleblog.com/2020/04/meet-in-gmail.html>> accessed 5 January 2026 .

Guy R, Asher S and Brooke F, ‘DOJ Antitrust Head Jonathan Kanter: “We Are Making It Very Clear: We’re Going to Hold Individuals Accountable”’ (ProMarket, 28 April 2022) <<https://www.promarket.org/2022/04/28/kanter-interview-antitrust-consumer-welfare-criminal-individuals/>> accessed 10 December 2025

Khan LM, ‘Remarks of Chair Lina M Khan at the Charles River Associates Conference, Competition & Regulation in Disrupted Times’ (31 March 2022) <<https://www.ftc.gov/news-events/news/speeches/remarks-chair-lina-m-khan-charles-river-associates-conference-competition-regulation-disrupted-times>> accessed 3 December 2025

Kuneva M, ‘Keynote Speech – Roundtable on Online Data Collection, Targeting and Profiling’ (Speech, European Commission, Brussels, 31 March 2009) <https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_09_156> accessed 30 December 2025

Lemley MA and Noti-Victor J, ‘Anticompetitive Acquiescence in AI Content Licensing’ (ProMarket, 2025) <<https://www.promarket.org/2025/11/18/anticompetitive-acquiescence-in-ai-content-licensing/>> accessed 3 January 2026

National Conference of State Legislatures, ‘Artificial Intelligence 2025 Legislation’ (2025) <<https://www.ncsl.org/technology-and-communication/artificial-intelligence-2025-legislation>> accessed 3 January 2026

Open Markets Institute, ‘Open Markets Condemns Google’s Paltry AdTech Remedies in the EU Case’ (17 November 2025) <<https://www.openmarketsinstitute.org/publications/paltry-adtech-remedies-in-the-eu-case>> accessed 8 December 2025

US Chamber of Commerce, ‘Letter on S 2710, “Open Markets Act”’ (3 February 2022) <<https://www.uschamber.com/antitrust/u-s-chamber-letter-on-s-2710-open-app-markets-act>> accessed January 2026

US Chamber of Commerce, ‘Letter on S. 2992, "American Innovation and Choice Online Act"' (31 May 2022) <<http://uschamber.com/antitrust/u-s-chamber-key-vote-letter-on-s-2992-american-innovation-and-choice-online-act>> accessed 3 January 2026

Walker K, ‘A Deeply Flawed Lawsuit That Would Do Nothing to Help Consumers’ (The Keyword, 20 October 2020) <<https://blog.google/outreach-initiatives/public-policy/response-doj/>> accessed 16 December 2025